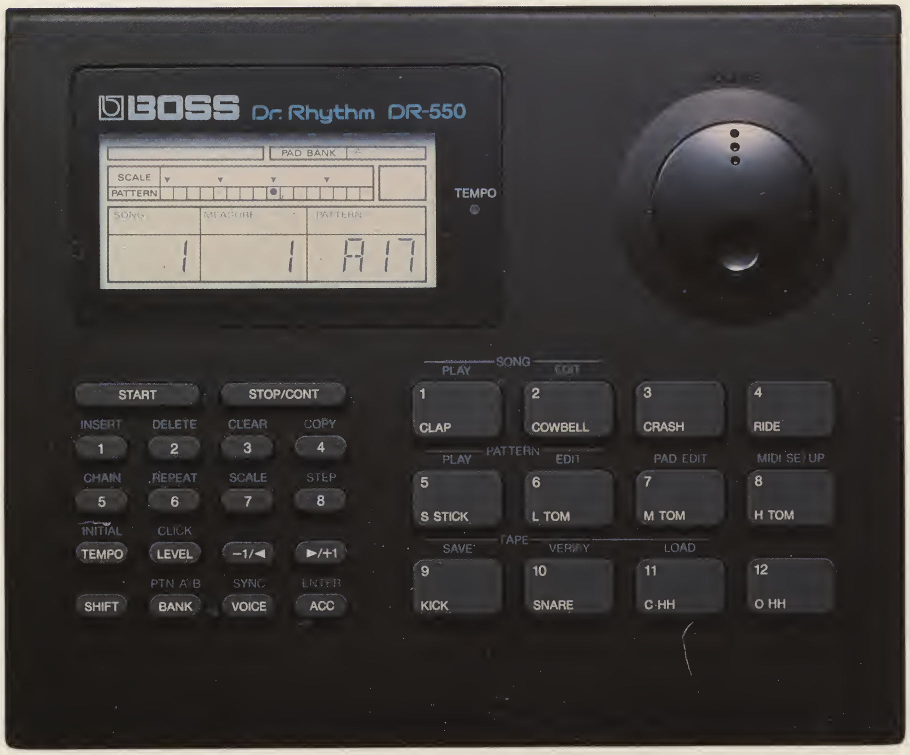
UP AND RUNNING!

WITH THE BOSS DR-550

Dr. Rhythm



A COMPLETE INTRODUCTION TO THE AMAZING DR-550 DR. RHYTHM!

This handy guidebook explains everything you need to know including basic step-by-step rhythm programming and advanced MIDI applications. Now you can master the beat right in the palm of your hand!

BOSS®

Up and Running! With the BOSS DR-550 Dr. Rhythm

by

Romeo Music International

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DR-550
Dr. Rhythm
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PREFACE

Up and Running With Up and Running!

Welcome

Welcome to *Up and Running! With the DR-550 Dr. Rhythm.* As its title suggests, this book was written to get you working with your new drum machine right away. The DR-550 is an exciting product. Packed inside this tiny box are 48 high-quality percussion sounds and a number of powerful programming features that will help you make some terrific music. To introduce you to all that power we've designed a new kind of documentation that is based on an easy-to-follow step-by-step approach to most of the DR-550's important features. Every time you need to learn about a new feature we'll give you a simple list of steps to follow. Even if you've never used a drum machine before, we guarantee you'll be able to follow along without missing a beat. We think that learning by doing is the best possible way to get familiar with a new piece of equipment. The chapters in this book are designed to get you making music with the DR-550 as soon as possible without weighing you down with too many technical terms and unfamiliar concepts. So let's get started!

It shouldn't take you more than a couple of hours to go through all the examples in this book.

What Kind of Book is This?

The DR-550 comes with an Owner's Manual right in the box, so why do you need another book to tell you how to use it? There are many different approaches to documentation. The two most common are reference-oriented documentation and applications-oriented documentation. The manual that comes with the

DR-550 is primarily a reference-oriented book. As such it contains all the information you need to know about operating the unit. When you need to know every little detail about a particular function on the DR-550, that's the place to go.

Reference-oriented documentation like the Owner's Manual is primarily concerned with answering the "what" questions. Questions like "What does the TEMPO button do?" and "What are the sounds in BANK A?" are all thoroughly answered in the Owner's Manual. Applications-oriented documentation like this book emphasizes the "how" and the "why" questions like "How can I use the DR-550 in my MIDI setup?" and "Why is Step Time Recording better than Real Time Recording in some situations?"

HOW TO **Using This Book**

Look for these "How To" graphics throughout the book. They point out places in the text where specific instructions are given for performing useful operations on the DR-550.

How to Use This Book

There's a brief summary of each chapter in the next section of this Preface. The best way to use this book is to read that section, take note of the things that interest you, and go right to them. Look for things called Activities. Each Activity is a complete hands-on introduction to a specific aspect of the DR-550. If the only thing you did, for example, was go through the first six or eight Activities, you'd come away with a great understanding of the DR-550's basic functions.

Obviously, if you've just taken the unit out of the box you'll probably want to start right here at the beginning. Go through each chapter carefully. Follow the Activities closely. Don't worry about understanding everything the first time through. Just take your time and follow the directions. You'll be up and running in no time.

One more way to use this book is as a "quick reference" guide. Even though this is primarily an applications-oriented volume it can serve as a handy reference book for basic functions. If you look in the back of this book you'll find both a General Index and a special "How To" Index. The "How To" Index lists every step-by-step example in this book. Each step-by-step example shows you everything you need to know to perform a specific function on the DR-550. So if all you need to know is one specific thing just look it up in the "How To" Index, go to that page in the book, and follow the easy step-by-step example.

A Brief Summary of Each Chapter

Everything you need to know about getting started with the DR-550 is covered here in these six chapters.

Chapter 1. *Fresh From the Factory* tells you how to use the DR-550 with headphones, a mixer, an instrument amplifier, or your home stereo. You'll also get a quick tour of the sounds, patterns, and songs that are in your DR-550 when it comes from the Roland factory. There are three short Activities here: 1) *Listening to the Factory Songs*, 2) *Listening to the Factory Patterns*, and 3) *Listening to the Factory Sounds.*

Chapter 2. *Composing Your First Rhythm Pattern* takes you through the basics of both Real Time Recording and Step Recording. There are two Activities in this chapter: 1) *Recording a Pattern in Real Time*, and 2) *Recording a Pattern in Step Time.*

Chapter 3. As soon as you've made a pattern you're ready to make a song. *Songs in Seconds* will show you just how easy that is. Activity #7, *Composing a Song*, will take you through the process step by step.

Chapter 4. *Digging In to the Factory Sounds* will show you how to change the 48 drum sounds that come with DR-550 to create new sounds and special drum programming effects. The Activity at the end of this chapter will show you how to create your own custom drum kit with your own edited sounds.

You don't have to go through this book in order if you don't want to. Read the chapter summaries on this page and then work through the Activities that interest you. Each Activity is a complete, self-contained example of some important aspect of the DR-550.

Chapter 5. *Using the DR-550 in Your MIDI Setup* will show you how to use the DR-550 with other MIDI instruments. In addition to describing the basic cable connections we'll show you some ways to use the instrument that you might not have thought of.

Chapter 6. *Saving Your Patterns and Songs* will take you through the all-important process of saving your work to cassette tape. This is must-reading for all DR-550 owners. Activity #10, *Save, Verify, and Load*, will show you everything you need to know.

The Purpose of This Book

The whole point of *Up and Running! With the DR-550* is to get you working with your new drum machine as quickly as possible—to get you up and running (making music and having fun) right away. Too often the promise of new technology is obscured by the process of teaching about it. That won't be the case here. Every example is easy to follow. Every concept is clearly explained. If you don't understand something the first time through, give it a second or third reading and you'll probably get it. Most important of all, be patient with yourself. Learning a new piece of MIDI equipment is really like learning a new instrument. It takes practice, and practice takes time. As you work with the DR-550 keep this book by your side. If something comes up that you're not sure about, look it up in the "How To" Index and study the appropriate Activities. The Activities are your keys to success as you get *Up and Running! With the DR-550.*

A Quick Note About Initializing Your DR-550

We know you're anxious to get to work learning the DR-550 but there's one thing you might want to do before you get started. Activity #1 will show you how to initialize your unit to its factory settings. This will insure that all the drum sounds are assigned to their default pads and that all the factory programs and songs will play correctly when you go through this book.

Activity #1—Initializing Your DR-550 to the Factory Settings

If you've made a lot of changes to your DR-550 and you just want to get it back to the way it was when you took it out of the box, follow this Activity.

When you got your DR-550 home you probably took it out, plugged it in, and started punching buttons just to see what would happen. That's a very natural thing to do. Most people are so excited when they get a new piece of equipment that they hardly want to look at a manual (and we don't blame them one bit). Sometimes, however, new users inadvertently modify parameters that alter the way the unit operates. When this happens all they really want to do is get the unit back to the way it was when they took it out of the box. That's called performing a Hard Reset or an Initialization. When you do that, all the data in your DR-550 is erased and replaced with the data that was in the unit when it shipped from the factory. These parameters and their values are referred to as the factory default settings.

Important Note: Initializing your DR-550 will wipe out any new patterns, songs, or pad settings that you have created. If you want to save them right now before going on, see Chapter 6.

HOWTO Initializing the DR-550

To restore your DR-550 to the factory settings:

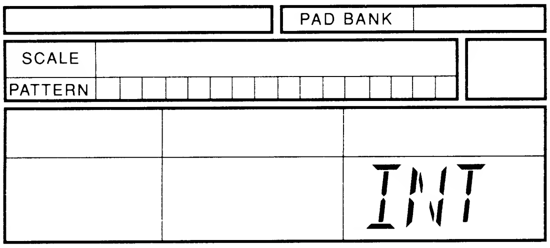
Step 1 Turn your DR-550 off.

Step 2 Hold down the -1/< and >/+1 buttons.

Step 3 With the buttons depressed, turn on the DR-550.

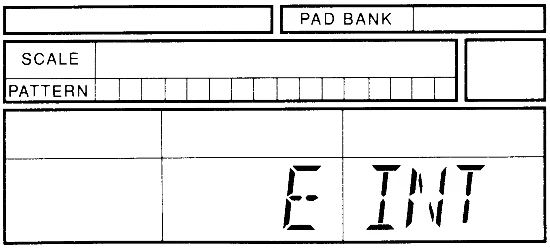
Step 4 When the display reads "INT" press the START button.

Hold down these buttons when you power up the DR-550 and then press the START button to restore the unit to the factory default settings.

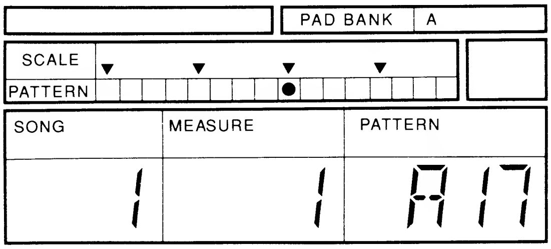


During initialization the display will look like this:

Remember, initializing the DR-550 erases any work that you have done.



In a few seconds your DR-550 will be restored to its factory default settings.



Any data that you had saved from a previous session would be erased. Remember, this process is also called "Initialization." That's what INT means in the display.

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CHAPTER ONE

Fresh From the Factory

Powering It Up and Plugging It In

Your DR-550 can run on the six batteries supplied with the unit. But if you want to conserve your battery power for times when you really need it, use an external power supply. The DR-550 should only be used with the Boss PSA-120 power supply. You can get one from your Roland dealer. Even if you have another power supply with the same power rating use the PSA-120. Other power supplies may damage the DR-550 or, at the very least, cause your DR-550 to inadvertently reset itself when you power it up. When you use a power supply, you don't run down the batteries so there's a better chance that they'll be working the next time you're on the road somewhere and you want to whip up a few hip patterns.

The batteries that come with the DR-550 are good for about 10 hours.

Listening to the DR-550 With Headphones

The DR-550 has a stereo headphone jack on the back panel. It's the one labeled PHONES. This jack takes a stereo mini-plug connector just like the ones used with most Walkman-style cassette players. Just plug in your headphones and you're all set. If your headphones have a 1/4-inch plug instead of a mini-plug just purchase a 1/4-inch-to-mini-plug adapter from your local music dealer or an electronics store.

The DR-550 sounds really great through headphones.

Connecting the DR-550 to Your Stereo

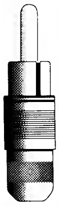
It is possible to connect the DR-550 directly into the amplifier of your home stereo. All you need are the proper connectors. The left and right output jacks on the back of the DR-550 take 1/4-inch plugs. Home stereo amplifiers usually take RCA plugs. If you want to connect your drum machine to your stereo, the best thing to do is to get a pair of 1/4-inch cables (these are sometimes called guitar cables or instrument cables) and put a 1/4-inch-to-RCA adapter on the end of each one.

The most likely place to plug your drum machine into your amplifier is through your amp's auxiliary inputs. If, for some reason, you can only plug in one cable from the DR-550, use the output labeled L(MONO). If you use the other output, instruments that are panned to the left will be very soft or inaudible.

This is a 1/4-inch plug. The Left and Right output jacks of the DR-550 take this kind of plug. You'll also find 1/4-inch jacks on most mixing boards and electronic instrument amplifiers.

Connecting the DR-550 to a Mixing Board

To connect the DR-550 to a mixing board connect the left and right outputs to the line inputs of two adjacent channels. Mixing boards usually have 1/4-inch inputs so you shouldn't need any special adapters. Once again, if you have only one input for the DR-550 on your mixer take the output from the L(MONO) jack.



This is an RCA plug. You'll find jacks for this type of plug on the back of most home stereo amplifiers and portable tape players.

Connecting the DR-550 to an Electronic Instrument Amplifier

Many guitar or keyboard amplifiers have only one input so be sure to connect the L(MONO) output and not the right output. Even if your amp does have two inputs you probably won't gain much by using both of them. Even amps that have two inputs and two distinct sets of speakers usually can't produce a very wide stereo field because the right and left speakers are so close together. In most cases, you're better off using just the L(MONO) output for the DR-550. If you do have an extra input on your amp, use it for another sound source like a keyboard, guitar, or bass.

Setting the Volume

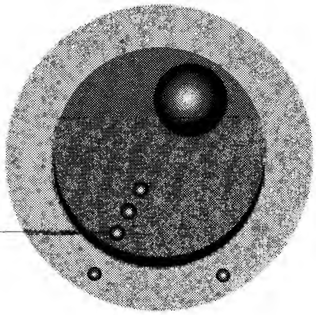
No matter what you plug your DR-550 into you'll want to make sure you set its volume properly so you don't damage any of your equipment (or your ears):

HOWTO Setting the Volume

Step 1 Make sure the DR-550 is off.

Step 2 Connect the DR-550 to the appropriate device.

Step 3 Rotate the Volume Dial all the way to the left (no volume).



This is the minimum setting of the Volume Dial as indicated by these three small circles.

Step 4 If possible, turn the volume all the way down on the device into which you are plugging the DR-550.

Step 5 Turn the DR-550 on.

Step 6 Set the volume of the device into which you are plugging the DR-550 to a normal listening level.

Step 7 Test the volume on the DR-550 by pressing some of the drum pads while slowly rotating the Volume Dial to the right.

Step 8 Adjust the volume of the DR-550 to suit your tastes.

Be careful not to set the volume too loud the first time you plug the DR-550 into your headphones, mixing board, or amplifier.

So What's in This Little Black Box Anyway?

Even if you've never programmed a drum machine (or even used one for that matter) you can start making music with the DR-550 right away. Your unit comes fresh from the factory with some terrific pre-programmed patterns and songs. The patterns are permanent; you can never erase them. That means you'll always have a large supply of rhythms to use and to learn from.

Before you start making up patterns and songs of your own, you should take a few minutes to listen to the material that comes in the DR-550. In next part of this chapter, we'll show you how to do that.

You can learn a lot about good drum programming by listening closely to Song #1 and then investigating all the patterns that it uses.

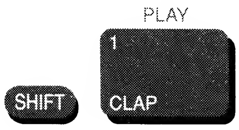
Activity #2—Listening to the Factory Songs

Your DR-550 comes with six songs already programmed into it. Song #1 is really amazing. It was programmed by someone who worked with the DR-550 during its final testing at the factory in Japan. It's the demo song; it really shows off what you can do with the DR-550 when you put your mind to it. Songs 2 through 6, though not complete "compositions" like Song #1, will be useful to you right now because they show off many of the DR-550's built-in rhythm patterns.

Calling up the factory songs is easy. All you have to do is enter Song Play Mode, call up the song you want to hear, and press the START button. To play Song 1, for example:

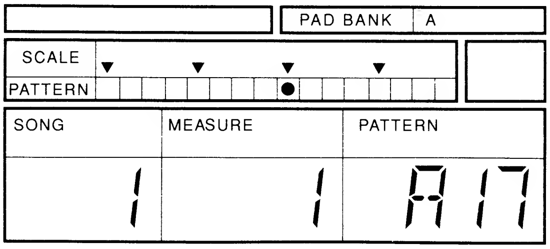
HOWTO Calling Up a Song

Step 1 Hold down the SHIFT button and press Drum Pad #1 (CLAP). This puts you in Song Play Mode.



SHIFT-Pad #1 takes you to Song Play Mode.

Step 2 Press Numeric Key #1. This calls up Song #1.



Step 3 Press the START button.

The song will play until it finishes or until you press the STOP/CONTINUE button. To play another song just repeat these steps substituting the number of the new song you want to listen to (songs 1-6 have been programmed, 7 and 8 are empty) in STEP 2.

Starting and Stopping

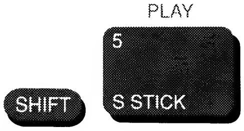
The START button has one function—it always starts a song from the beginning. The STOP/CONTINE button (as its name implies) has two functions. If a song is playing, pressing the STOP/CONTINUE button stops the song. If the song is not playing, pressing the STOP/CONTINUE button starts the song from wherever you stopped it last.

Activity #3—Listening to the Factory Patterns

Your DR-550 comes with enough memory to store 128 rhythm patterns. Of those 128 patterns, 64 of them come pre-programmed in the unit's Read-Only Memory or ROM (ROM is a special type of memory that can never be erased). These patterns are listed in your Preset Pattern Score—the thin white book that accompanies your Owner's Manual. They are notated in both "drum grid" format and standard music notation. The 128 patterns are divided into two banks of 64 patterns each. The pre-programmed patterns are stored in Bank B.

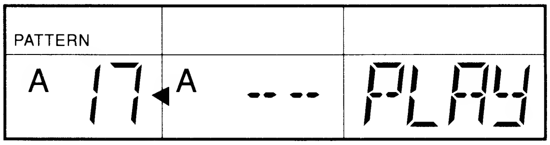
To listen to a factory pattern all you have to do is enter Pattern Play Mode, select the Bank and Pattern you want to listen to, and press the START button. To play Pattern B17, for example:

HOW TO Calling Up a Pattern

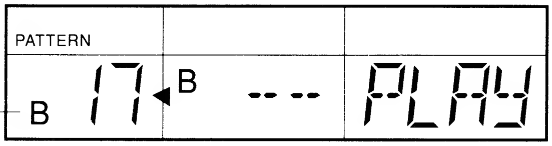


SHIFT-Pad #5 takes you to Pattern Play Mode.

Step 1 Hold down the SHIFT button and press Drum Pad #5 (S STICK). This puts you in Pattern Play Mode.

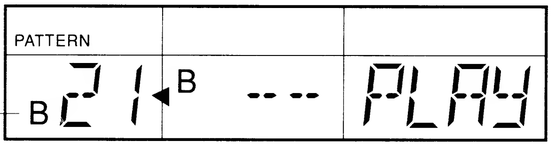


Step 2 Hold down the SHIFT button and press the BANK button. This switches you to Pattern Bank B.



The factory patterns are stored in Bank B. They are stored in Read Only Memory (ROM) so you can never erase them.

Step 3 Press Numeric Key #1 followed by Numeric Key #7. This calls up Pattern 17.



Step 4 Press the START button.

Cueing Up Patterns

HOW TO Cueing Up Patterns

While one pattern is playing you can cue up a second pattern to play as soon as the first pattern ends by entering another pattern number with the Numeric Keys. For example, if you press Numeric Keys 2 and 3 while Pattern B17 is playing, Pattern B23 will play as soon as B17 finishes. Cueing up one pattern after another is a great way to see how two different patterns work together before you actually write them into a song.

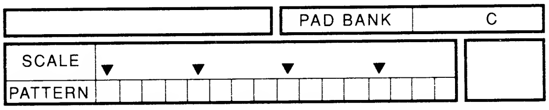
Activity #4—Listening to the Factory Sounds

There are 48 high-quality sampled drum sounds built into the DR-550. The 48 sounds are organized in 4 banks of 12 sounds each. A listing of the sounds with their default pad assignments is available in your Owner's Manual on pages 16 and 17 and on pages 25 and 26 of your Preset Pattern Score. Like the factory patterns, the factory sounds are stored in ROM memory. They can never be erased, so don't worry about losing them.

To listen to a sound, just tap on one of the pads. To move to a different bank, press the BANK button. To listen to the sound on the CLAP pad (Drum Pad #1) in Bank C, for example:

HOW TO Listening to the Sounds

Step 1 Press the BANK button until PAD BANK C appears in the display.



Step 2 Tap on Pad #1 (CLAP). This is a Cabasa sound.

It's important to remember that, even though there are only 12 physical drum pads, you really do have 48 different sounds to work with. In the same sense, you have 48 different virtual drum pads to play on, too—one for each sound.

Pad Bank A has some great processed pop/rock sounds. Bank B is an acoustic drum kit. Bank C has Latin percussion sounds. Bank D is an electronic kit featuring several sounds from Roland's classic TR-808 drum machine.

Take a minute to familiarize yourself with all the sounds in the DR-550. The DR-550's 48 sounds are the basic building blocks that you will use to create your patterns and songs. Having such a large number of sounds is a real asset. You can use any sound you want in any pattern at any time. The DR-550 has twelve voice polyphony. That means that any twelve sounds can play at one time, and on a drum machine 12 sounds can go a long way. For example, if you take a look at even the most complicated pattern in your Preset Pattern Score (for instance, Pattern #83 on page 22) you'll see that the greatest number of instruments playing at one time is only 9 (the ACCent doesn't count).

Playing Accented Sounds

HOW TO Playing Accented Sounds

Sounds can be played normally or with a volume accent. To hear the sound as it would play normally just tap the pad. To hear the sound as it would play accented, hold down the ACCent button (it says ACC on it) and tap the pad. The accented sound will be slightly louder in most cases.

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CHAPTER TWO

Composing Your First Rhythm Pattern

What's a Pattern?

Before you create a rhythm pattern you should know what a rhythm pattern is. A pattern is a collection of steps where each step represents a particular point in time (a fraction of a beat) during which a drum sound can be played. A single pattern can have a maximum of 16 steps. The length of a step, (whether it represents a 16th note, or an 8th-note triplet, or whatever) is determined by the Scale. Scale will be covered in detail later on. For right now, all you need to know is that the default setting for Scale gives you four steps per quarter-note beat. Each step, then (at the default setting), is equal to a 16th note. And since the default number of steps is 16, any time you begin recording a new pattern you'll be all set to record a pattern with 16 16th notes in it. That's one measure of 4/4 time. Regardless of the Scale setting, you can always think of a pattern as one measure of music.

This chapter takes you through pattern recording one step at a time.

How Patterns Are Created

There are two ways to create rhythm patterns: Real Time Recording and Step Time Recording. In Real Time Recording, the DR-550 acts like a tape recorder; it records whatever you play on the pads. The built-in metronome supplies a quarter-note beat while you tap out a rhythm with any of the 48 sounds. Step Time Recording is a little different. Instead of actually playing a rhythm in time to a metronome, you find the step on which you want to

The DR-550 offers both Real Time Recording and Step Time Recording.

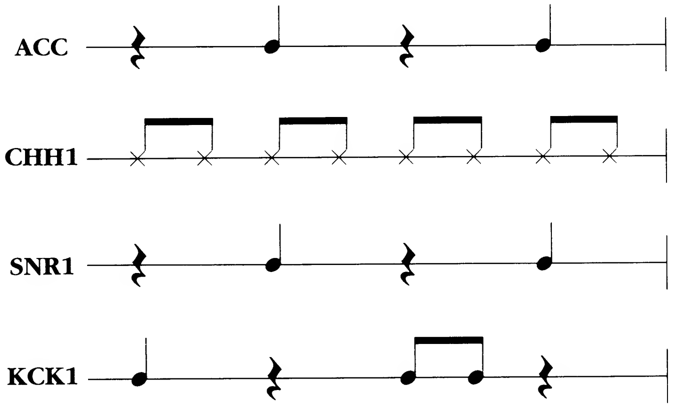
record a drum hit and then press the pad (or pads) for the sound you want to hear at that point in the pattern. We'll cover both kinds of pattern recording in this chapter. Each method has its advantages and disadvantages.

Activity #5—Recording a Pattern in Real Time

Real Time Recording on a drum machine is sometimes called "loop" recording.

Real Time Recording on a drum machine is sometimes called loop recording. During Real Time Recording the DR-550 will play through all the steps in the pattern over and over in a loop. During the recording process, the DR-550 will never erase any of the notes you play. This allows you to listen to the pattern over and over building up more parts as you go.

Real Time Recording involves entering Pattern Edit Mode, selecting one of the 64 pattern locations to record into, clearing that pattern of any old parts if necessary, finding the sound you want to record with, and then just tapping out a rhythm on the pads in time to the metronome. Here's a simple rock pattern to enter for this activity:



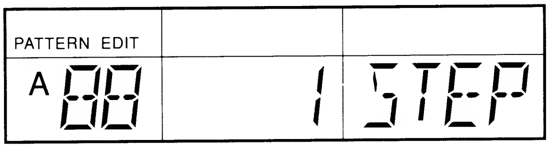
The ACCent is not an instrument. It doesn't make any sound. Instead it is used to emphasize certain beats in a rhythm pattern. In this pattern, sounds occurring on Beat 2 and Beat 4 will be accented.

Let's record this pattern, in real time, into Pattern A88. To do that:

SHIFT-Pad #6 takes you to Pattern Edit Mode.

Step 1 Hold down the SHIFT button and press Drum Pad #6 (L TOM). This takes you into Pattern Edit Mode.

Step 2 Press Numeric Key #8 twice to call up Pattern A88.



The metronome click is always a quarter note.

Step 3 To see if something has already been recorded in that location press the START button and listen.

Step 4 Press the STOP/CONTINUE button.

HOWTO Erasing a Pattern

If the only thing you heard was a sharp click on every beat (that's the metronome) there's nothing in the pattern. If you did hear something in the pattern you can clear the pattern out by doing the following: with the pattern stopped 1) Hold down the SHIFT button, 2) Press Numeric Key #3 (CLEAR), and 3) With the SHIFT button still held down press the ACCent (ENTER) button. This will erase any drum sounds from the current pattern.

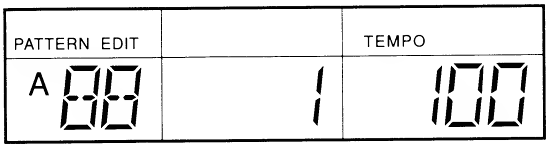
Note: If you have already recorded something into Pattern A88 and you'd rather not erase it to do this activity, just move to another pattern location and record this example there. To move to another pattern location enter a different pattern number with the numeric keys.

For this activity you're going to set the tempo to 100 beats per minute. To do that:

HOWTO Setting the Tempo

Step 5 Press the TEMPO button.

Step 6 Use the -1/< and >/+1 buttons to set the tempo to 100 beats per minute.

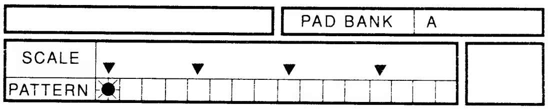


If you hold down one of these buttons and then press the other one, the DR-550 will scroll through the tempo numbers very rapidly.

Step 7 Press the TEMPO button again.

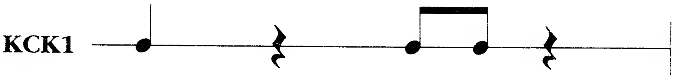
You're going to enter the kick drum part first. The drum sound you're going to use is under the KICK pad in Pad Bank A. To call up Pad Bank A:

Step 8 Press the BANK button until the display reads Pad Bank A.



Now you're ready to begin recording. Here's the kick drum part that you're going to record:

Listen to the metronome for a little while before you start to play.



The next thing you're going to do is press the START button and begin tapping out the rhythm on the KICK pad. As soon as you press the START button, the DR-550 will give you the beat via its built-in metronome. Each metronome click is a quarter note. Before you start playing, give yourself four or eight beats to get comfortable with the tempo.

Step 9 Press the START button. Beat 1 occurs as soon as you press the button.

Step 10 Tap out the kick drum part on the KICK pad.

Step 11 Press the STOP/CONTINUE button.

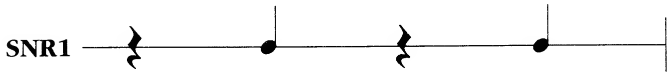
HOW TO Erasing One Sound in a Pattern ☞

If you didn't get the rhythm right and you want to try it again, follow these steps: 1) Press the START button, 2) Hold down the SHIFT button and press Numeric Key #2 (DELETE), 3) With the SHIFT button still held down press the KICK pad and hold it down until you don't hear the kick drum part anymore, 4) Press the STOP/CONTINUE button.

If it seems like the DR-550 isn't recording *exactly* what you play, don't worry. In this pattern, the smallest rhythmic value the DR-550 will record is a 16th note—that's one step in the pattern (we'll talk more about steps a little later in this chapter). Any time you play in between two 16th-note pulses, the DR-550 will automatically move your hit to the nearest step—that's called *quantizing*.

Now let's add the snare drum part. The snare sound you want to use is also in Pad Bank A so you don't need to move to another bank. To record the snare part:

Listen to the kick drum part once or twice before you start to play the snare.



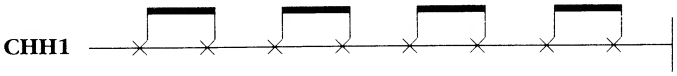
Step 12 Press the START button. Listen to the kick drum part play through at least once before you play the snare part.

Step 13 Tap out the snare part on the SNARE pad.

Step 14 Press the STOP/CONTINUE button.

If you didn't get the rhythm right, erase it and repeat Steps 12-14 until you get it.

To record the hi hat part:



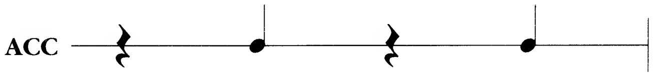
Step 15 Press the START button. Listen to the kick and snare parts once or twice before you play.

Step 16 Tap out the hi hat part on the Closed Hi Hat (C HH) pad.

Step 17 Press the STOP/CONTINUE button.

Remember, if you didn't get the rhythm right and you want to try it again, follow these steps: 1) Press the START button, 2) Hold down the SHIFT button and press Numeric Key #2 (DELETE), 3) With the SHIFT button still held down press the Closed Hi Hat (C HH) pad and hold it down until you can't hear the hi hat part anymore, 4) Press the STOP/CONTINUE button.

All you have left is the accent part. To record that part:



HOWTO Recording Accents

Step 18 Press the START button. Listen to the whole pattern once or twice before you play.

Step 19 Tap out the accent part on the ACCent (ACC) button.

Step 20 Press the STOP/CONTINUE button.

Remember, the accent isn't an instrument so it doesn't make any sound when you hit the button.

A Few Tips For Real Time Recording

Here are a few tips that will make Real Time Recording go a little faster for you:

- You may have noticed that Steps 9-11, 12-14, and 15-17 are virtually identical. The only difference is the sound you were recording with. You can record with any sound at any time.
- You don't need to stop the pattern to record a new instrument every time.
- You can also switch Pad Banks without stopping the pattern.
- You don't have to record only one instrument at a time. You can record as many parts at once as you have fingers to hit the pads with.

HOWTO Setting the Level of the Metronome

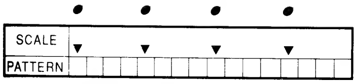
- You can change the volume level of the metronome by holding down the SHIFT button and pressing the CLICK button. 15 is as high as it goes.
- If you want to practice a part with the pattern running before you record it, press the TEMPO button. While the tempo is displayed you can "noodle" on the pads without recording. To begin recording again press the TEMPO button a second time.

Step Time Recording

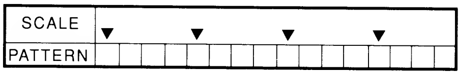
In Real Time Recording, the DR-550 gives you a metronome pulse to play against. Every time you hit a drum pad, the DR-550 records that hit at a particular step in the pattern. In Step Time Recording there is no metronome to work with. Instead of letting the DR-550 cycle through the steps in the pattern automatically, you are responsible for moving to the step where you want a drum sound to play and recording a hit at that point. This gives you more control over the whole recording process.

Reading the PATTERN Grid

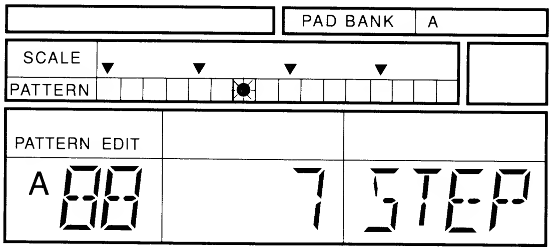
In order to record patterns effectively in step time you need to understand the PATTERN Grid and the Scale display. The PATTERN Grid is made up of the 16 boxes that follow the word PATTERN in the upper half of the DR-550's display:



The small triangles above the PATTERN Grid mark quarter note beats.

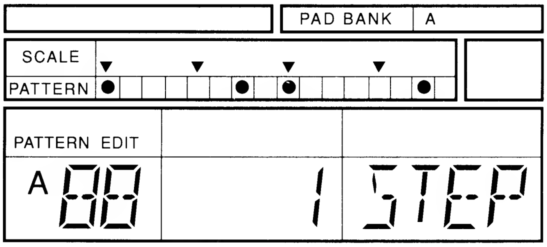


Each box represents a step in the pattern. When you see a dot flashing in one of the boxes that means the DR-550 is ready to record the next pad you press at that step in the pattern.

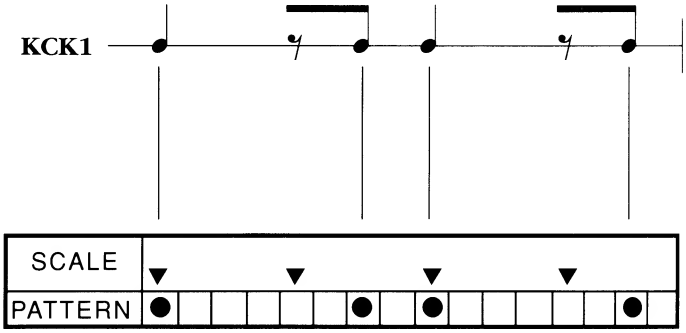


Here, the DR-550 is set to record on Step 7 (the second half of Beat 2, also called the "and" of 2) in this pattern.

If you see a non-flashing dot in one of the boxes that means a drum sound has been entered at that step in the pattern:



This display shows drum hits on Steps 1, 7, 9, and 15. In terms of standard music notation there are drum hits on Beat 1, the "and" of Beat 2, Beat 3, and the "and" of Beat 4.



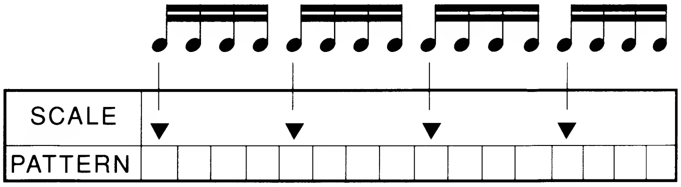
It's easy to translate the PATTERN Grid into standard music notation.

Scale and Last Step

The DR-550 defaults to a 16-step pattern in 4/4 time. That means that each step is equal to a 16th note. But a step isn't always equal to a 16th note and not all patterns have 16 steps. Step value is determined by the Scale, and the number of steps in a pattern is determined by the Last Step.

Each pattern can have its own setting for Scale and Last Step. This allows you to create songs using mixed meters.

A pattern can have one of four different Scale settings. The Scale is indicated by a set of small triangles right above the PATTERN Grid. Each triangle represents a quarter-note beat. The time value of each step is determined by the number of steps between each quarter note. If there are four steps between each beat then each step is a 16th note—one fourth of a quarter note.



There's a chart on the next page that shows you several Scale and Last Step combinations for working in a variety of time signatures. It also illustrates the relationship between standard music notation and the Scale and Last Step parameters.

Last Step determines the number of steps in a pattern. A pattern can be made up of 1-16 steps. In a basic rock pattern with a 4/4 time signature you would want to have 16 16th-note steps to make up a full measure of music. If you wanted to do a shuffle beat in 4/4 where each step represented an 8th-note triplet you'd need 12 steps (each step would be one third of a quarter-note beat—an 8th-note triplet).

If all this sounds a little confusing at first, don't worry. There's a simple chart on the next page showing several time signatures with the correct settings for Scale and Last Step.

Setting Scale and Last Step

Each pattern you create can have different settings for Scale and Last Step. To change the Scale setting for a pattern:

HOW TO Setting the Scale in a Pattern

Step 1 Enter Pattern Edit Mode by holding holding down the SHIFT button and pressing Pad #6 (L TOM).

Step 2 Select the pattern you want to edit with the numeric keys.

Step 3 Hold down the SHIFT button and press Numeric Key #7 (SCALE).

Step 4 With the SHIFT button still held down use the -1/< and >/+1 buttons to choose one of the four Scale settings.

To set the Last Step for a pattern:

HOW TO Setting the Last Step in a Pattern

Step 1 Enter Pattern Edit Mode by holding down the SHIFT button and pressing Pad #6 (L TOM).

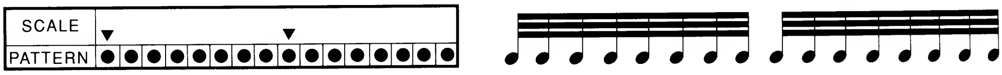
Step 2 Select the pattern you want to edit with the numeric keys.

Step 3 Hold down the SHIFT button and press Numeric Key #8 (STEP).

Step 4 With the SHIFT button still held down use the -1/< and >/+1 buttons to set the Last Step.

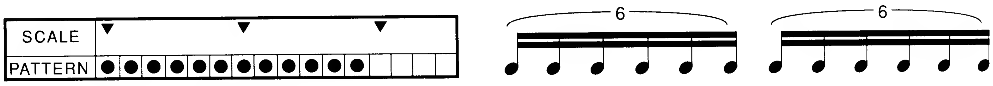
A Few Scale and Last Step Settings

2/4
Straight 8ths



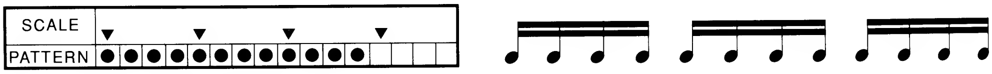
Last Step=16

2/4
Swing 8ths



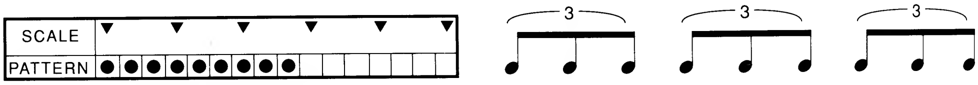
Last Step=12

3/4
Straight 8ths



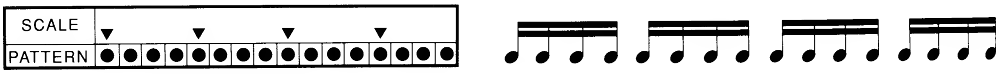
Last Step=12

3/4
Swing 8ths



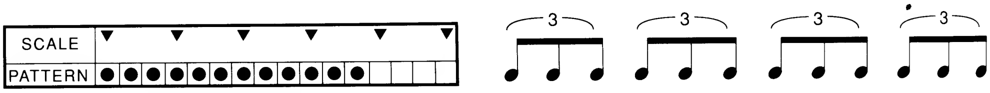
Last Step=9

4/4
Straight 8ths



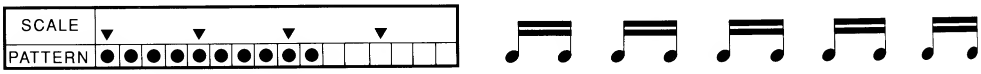
Last Step=16

4/4
Swing 8ths



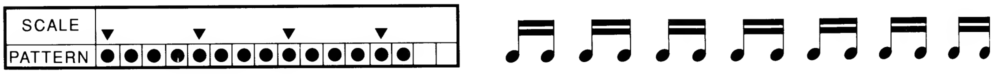
Last Step=12

5/8
Straight 8ths



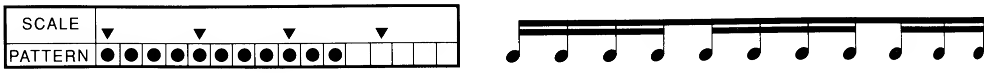
Last Step=10

7/8
Straight 8ths



Last Step=14

11/16
Straight 8ths

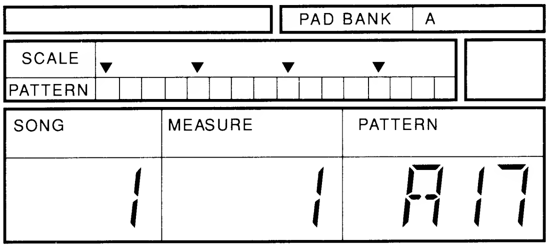


Last Step=11

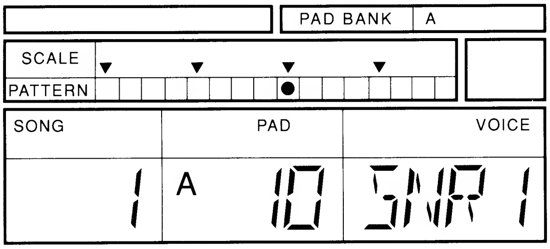
Viewing Different Instruments

HOWTO Viewing Sounds in the PATTERN Grid

The PATTERN Grid display has only one line of 16 steps. Most of your drum patterns will use more than one instrument so you need a way of looking at several different instruments in a pattern. Whether you are doing Real Time Recording or Step Time Recording (or just listening to a pattern in Pattern Play Mode) you can always check to see where a particular sound is playing by holding down the VOICE button and pressing the drum pad (any pad in any bank) you want to look at. Pressing the VOICE button will always show you which instrument sound is being displayed in the PATTERN Grid.



Normal display—the VOICE button is not held down.



Display with the VOICE button held down indicating that the sound SNR 1 assigned to Pad A10 has one bit on Step 9 of the current pattern.

Activity #6—Recording a Pattern in Step Time

For this Activity you're going to enter the same pattern you entered in Activity #5. That way you can effectively compare both types of pattern recording. If you've just completed Activity #5 you will notice some repetition here in Activity #6. That's because the basics of Step Time Recording are identical to Real Time Recording. Just like Real Time Recording, Step Time Recording involves entering Pattern Edit Mode, selecting one of the 64 pattern locations to record into, clearing that pattern of any old parts if necessary, and finding the sound you want to record with. Then things get a little different. At this point, you move to the step you want to record on and then press the pad corresponding to the sound you want to hear at that point in the pattern.

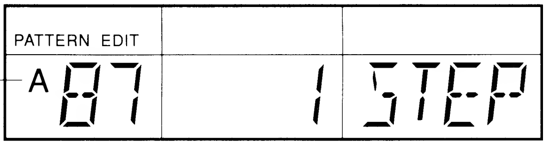
OK, here we go with the same pattern you used in the last Activity.

SCALE	▼				▼				▼				▼			
ACC					●								●			
CHH1	●		●		●		●		●		●		●		●	
SNR1					●								●			
KCK1	●								●		●					

Let's record this pattern, in step time, into Pattern A87. To do that:

Step 1 Hold down the SHIFT button and press Drum Pad #6 (L TOM). This takes you into Pattern Edit Mode.

Step 2 Press Numeric Key #8 and then Numeric Key #7.



Remember, you can only create new patterns in Bank A. Bank B is reserved for the factory patterns.

Step 3 To see if something already been recorded in that location press the START button and listen.

Step 4 Stop the pattern by pressing the STOP/CONTINUE button.

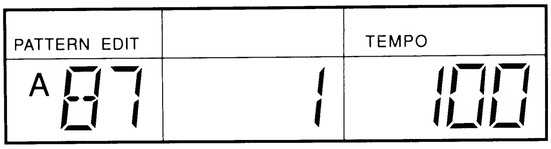
If the only thing you heard was a metronome click on every beat there's nothing in the pattern. If you did hear something you can clear the pattern out by doing the following: with the pattern stopped 1) Hold down the SHIFT button, 2) Press Numeric Key #3 (CLEAR), and 3) With the SHIFT button still held down press the ACCent (ENTER) button. This will erase any drum sounds from the current pattern.

Note: If you have already recorded something into Pattern A87 and you'd rather not erase it, just move to another pattern location and record this example there. To move to another pattern location enter a different pattern number with the numeric keys.

For this Activity you're going to set the tempo to 100 beats per minute. To do that:

Step 5 Press the TEMPO button.

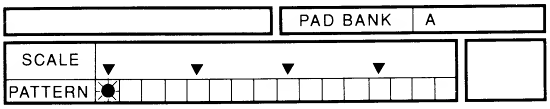
Step 6 Use the -1/< and >/+1 buttons to set the tempo to 100 beats per minute.



Step 7 Press the TEMPO button again.

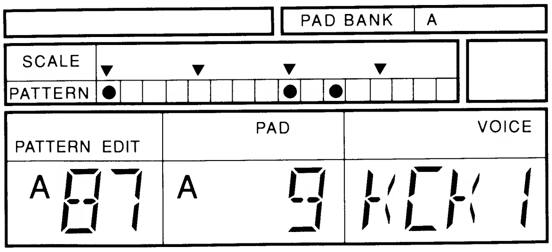
You're going to enter the kick drum part first. The drum sound you're going to use is under the KICK pad in Pad Bank A. To call up Pad Bank A:

Step 8 Press the BANK button until the display reads Pad Bank A.



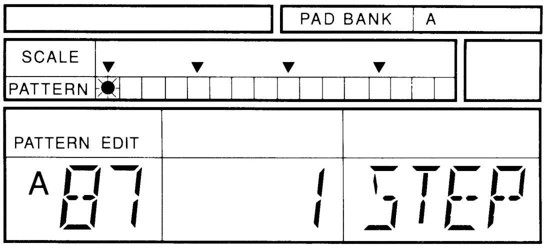
Now you're ready to begin recording. Here's the kick drum part that you're going to record:

This is what the PATTERN Grid will look like after you've entered the kick drum part.



The kick plays on Beat 1, Beat 3, and the "and" of 3. That means you want to put kick drum hits on Steps 1, 9, and 11. To do that:

Step 9 Press the >/+1 button until the display looks like this:



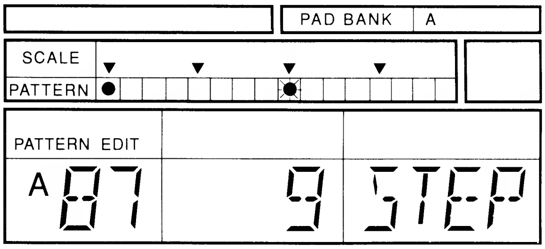
The flashing dot in the first box tells you that the DR-550 is ready to record on Step 1.

HOW TO Entering Drum Hits in Step Time

Step 10 Hold down the VOICE button and press the KICK pad. This lets you see where the kick drum is being played in the pattern.

Step 11 Press the KICK pad once. That enters a kick drum on Beat 1. Notice that the flashing dot moves over to Step 2.

Step 12 Press the >/+1 button seven times to reach Step 9. The display should look like this:

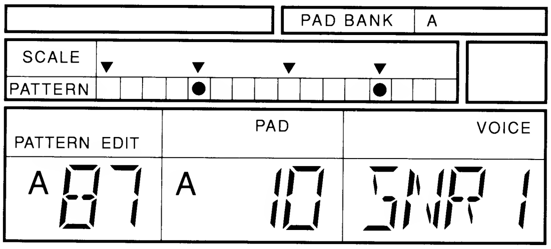


Step 13 Press the KICK pad again.

Step 14 Press the >/+1 button once to reach Step 11.

Step 15 Press the KICK pad one more time.

That's it! You've just entered the kick drum part in step time. Now move on to the snare part:

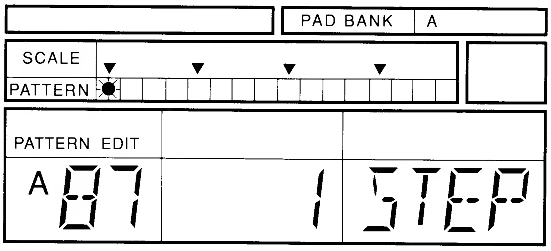


The snare plays on Beat 2 and Beat 4. That means you want to put snare drum hits on Steps 5 and 13. To do that:

Step 16 Hold down the VOICE button and press the SNARE pad so you can see it in the PATTERN Grid.

Step 17 Press the >/+1 button until you get to Step 1. The display should look like this again:

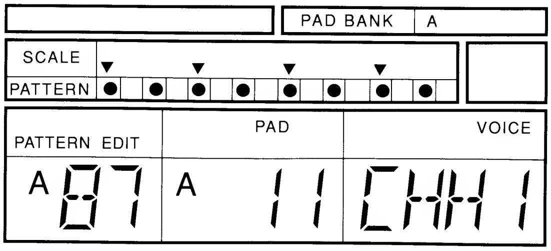
Go slowly at first. Always make sure you're on the right step.



Step 18 Use the >/+1 button to move to Step 5 and press the SNARE pad.

Step 19 Use the >/+1 button to move to Step 13 and press the SNARE pad.

That's it for the snare. Now for the hi hat:

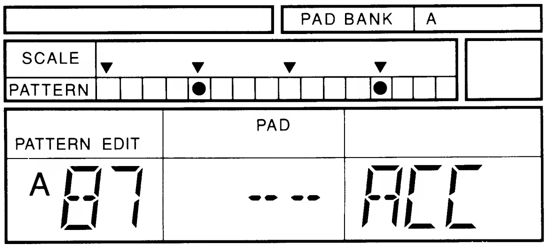


The hi hat plays on every 8th note. That means you want to put Closed Hi Hats on all the odd-numbered Steps (1, 3, 5, 7, 9, 11, 13, and 15). To do that:

Step 20 Hold down the VOICE button and press the Closed Hi Hat (C HH) pad so you can see it in the PATTERN Grid.

Step 21 Use the >/+1 button to move to Step 1 and press the Closed Hi Hat pad. Move through the pattern until you have entered closed hi hats on Steps 1, 3, 5, 7, 9, 11, 13, and 15.

All you have left are the accents on Beat 2 and Beat 4. Here's the part:



HOW TO Entering Accents in Step Time

Step 22 Hold down the VOICE button and press the ACCent button so you can see it in the PATTERN Grid.

Step 23 Use the >/+1 button to move to Step 5 and press the ACCent button to enter an accent on Beat 2. Then, put another accent on Step 13 (Beat 4).

That's it! Now press the START button to listen to the pattern you've just recorded.

A Few Tips For Step Time Recording

Here are a few tips that will make your Step Time Recording more efficient:

- You don't always have to start from Step 1. We just did that in the Activity for the sake of continuity.
- You can go forward and back. Use the >/+1 button to go forward; use the -1/< button to go back.
- You don't have to enter a pattern "horizontally"—that is, by entering in each instrument completely before going on to the next one. You could, for example, enter in all the hits on each step instead.
- You don't have to press the VOICE button each time to view the instrument you're working on. It's just helpful to know where you've recorded the last few hits.
- You can move through the pattern quickly by pressing the >/+1 button, holding it down, and then pressing the -1/< button. This is kind of like listening in fast forward on a tape machine. You can't hear the pattern in reverse, however.
- You can enter accented hits by pressing and holding down the ACCent button when you press a pad.
- You don't have to record only one instrument at a time. You can record as many parts at once as you have fingers to hit the pads with.

You don't have to enter the parts one at a time. You can enter any drum sound on any step at any time just as in Real Time Recording.

Advantages of Step Recording

Step Time Recording has some distinct advantages over Real Time Recording:

- If you don't know standard notation you can still enter notated drum patterns by reading the drum pattern "grids" like those used in the Preset Pattern Score.

- Step Time Recording can provide a good introduction to reading and writing rhythms.

Step Time Recording gives you more control over your rhythm composing because it allows you to specify an exact location for each drum hit.

- You can enter things you can't possibly play in real time because they are either too fast or too complicated.
- Step Time Recording will probably encourage you to create less conventional rhythm patterns. For example, try turning up the tempo to around 180 and then randomly entering drums at different steps. Press the START button and you'll hear an interesting, somewhat random, pattern.

Advantages of Real Time Recording

Real Time Recording has some distinct advantages over Step Time Recording:

- It's the fastest way to create rhythm patterns.
- It's easy to try out many different ideas quickly.

Real Time Recording is more interactive than Step Time Recording because the pattern is always running in a loop as you create it.

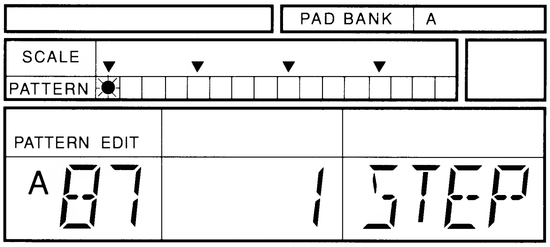
- Real time patterns usually have a better "feel" than step time patterns.
- It will improve your ability to read and play different rhythms or to play rhythms that are not written down.
- It will improve your sense of musical time.

A Word of Caution

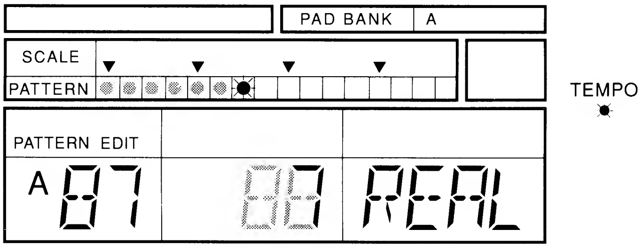
When you enter Pattern Edit Mode, the DR-550 is immediately ready for Step Time Recording. Any pad you hit will be entered at the current step. This is more or less the same when you're doing Real Time Recording—while the rhythm is running every pad you hit gets recorded. For these reasons, it's best to think of Pattern Edit Mode as a pattern recording mode where you're

HOW TO Practicing a Part Before Recording It

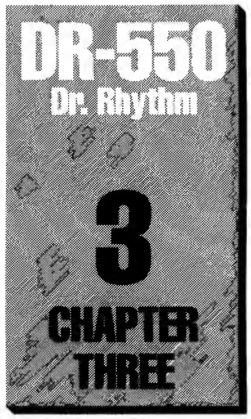
always recording. If you do want to "noodle" a little on the pads (say you want to practice a rhythm just before recording it), press the TEMPO button or the LEVEL button. When these buttons have been pushed, the DR-550 is looking for information from the numeric keys so it isn't recording what you do on the pads. When you're ready to record just hit the same button again and the DR-550 will be back in record mode.



Step Time Recording



Real Time Recording



Songs in Seconds

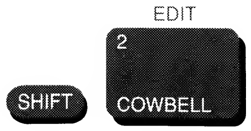
What's a Song?

You can make some great songs with just a few patterns.

A song is any number of patterns strung together one after another. Creating a song is simply a matter of choosing a pattern, entering it into the correct measure, and choosing another pattern to follow it.

Activity #7—Composing a Song

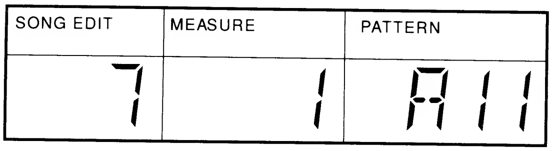
In this Activity you'll take several of the factory patterns and put them together into a short song. Your DR-550 can hold up to 8 songs. Songs 1-6 were put together at the factory. Unlike the 64 factory patterns, these songs can be erased. Even if you do erase them, you can always get them back by initializing the DR-550. In case you haven't gotten a chance to listen to the factory songs yet, we'll create this new song in song location #7. You'll start by entering Song Edit Mode, choosing a song location, and setting the tempo. Then we'll string the patterns together one right after another. Here we go:



SHIFT-Pad #2 takes you to Song Edit Mode.

Step 1 Hold down the SHIFT button and press Drum Pad #2 (COWBELL). This will take you to Song Edit Mode.

Step 2 With the SHIFT button still down press Numeric Key #7. This will take you to Song 7.



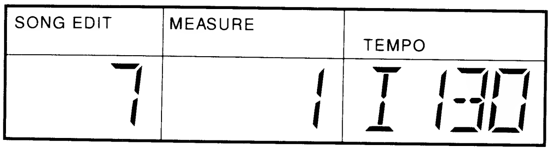
HOWTO **Erasing a Song**

If you have already created a song in location #7 but you still want to go through this example, just choose a different location. If you can't find an empty song, you can clear one out by doing the following: 1) Hold down the SHIFT button and press Numeric Key #3 (CLEAR), 2) With the SHIFT button still held down press the ACCent (ENTER) button.

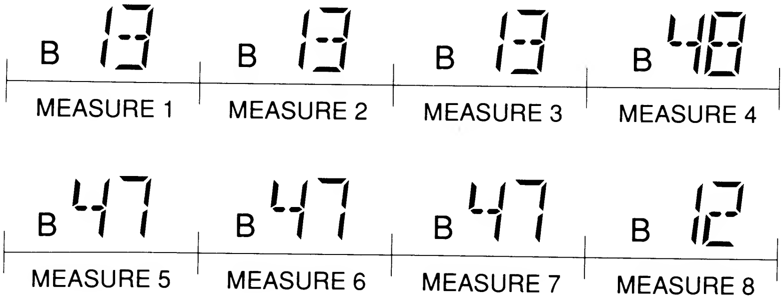
Step 3 Hold down the SHIFT button and press the TEMPO button.

Step 4 With the SHIFT button still held down use the -1/< and >/+1 buttons to set the tempo to 130.

HOWTO **Setting the Initial Tempo For a Song**



You're now ready to start entering the pattern numbers. Here are the patterns you're going to use and the order in which you'll enter them:



The Initial Tempo setting is saved with the song so that when you play it back at a later date your song will play at the correct tempo.

To enter a pattern at a particular measure in a song, all you have to do is call up the pattern using the numeric keypad and then press the ACCent (ENTER) button. All the patterns in this song will come from the factory patterns in Bank B so you'll have to switch banks each time you call up the next pattern.

HOWTO Entering a Pattern Into a Song

Step 5 Select Pattern B13 by holding down the SHIFT button, pressing the BANK button (to switch to Bank B), and then pressing Numeric Key #1 followed by Numeric Key #3.

Step 6 Press the ACCent (ENTER) button to enter that pattern into the song.

You'll notice that the DR-550 automatically moved to Measure 2.

SONG EDIT	MEASURE	PATTERN
7	2	A11

After entering a pattern into a song, pattern A11 will always show up in the display as the next pattern. Don't worry about this. This pattern won't be entered into the song unless you press the ENTER button when Pattern A11 is in the display.

To enter the rest of the song:

Step 7 Select Pattern B13 (press SHIFT-BANK, 1, 3) and press the ACCent (ENTER) button.

Step 8 Select Pattern B13 again and press the ACCent (ENTER) button.

You should now be on Measure 4.

SONG EDIT	MEASURE	PATTERN
7	4	A11

Step 9 Select Pattern B48 and press the ACCent (ENTER) button (press SHIFT-BANK, 4, 8, ACC).

Step 10 Select Pattern B47 and press the ACCent (ENTER) button.

Step 11 Select Pattern B47 again and press the

ACCent (ENTER) button.

Step 12 Select Pattern B47 once more and press the ACCent (ENTER) button.

Step 13 Select Pattern B12 and press the ACCent (ENTER) button.

That's it! Now, to hear your song:

Step 14 Enter Song Play Mode by holding down the SHIFT button and pressing Drum Pad #1 (CLAP).

Step 15 Press the START button.

That's all there is to it. Read ahead to find out other song composing techniques like inserting and deleting patterns, repeat play, and song chaining.

Repeat Play

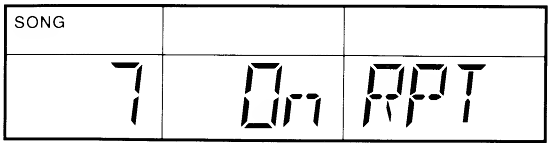
Right now your song plays once and then stops. But what if you want a song to repeat over and over? That's what the Repeat function is for. To make a song repeat over and over:

HOWTO **Playing a Song Repeatedly**

Step 1 Enter Song Play Mode by holding down the SHIFT button and pressing Drum Pad #1 (CLAP).

Step 2 Hold down the SHIFT button and press Numeric Key #6 (REPEAT).

Step 3 With the SHIFT button still held down press the >/+1 button.



That turns Repeat Play on for all songs. When Repeat Play is on, any song that you play will repeat over and over again until you stop it. Play the song you just created to try this out. Notice that it starts over at the beginning after the last measure is played.

To turn Repeat Play off just press SHIFT-6 while in Song Play Mode and then (with the SHIFT button still held down) press the -1/< button.

Inserting and Deleting Patterns in a Song

In addition to changing patterns within a song you'll probably want to insert and delete patterns as well. To insert a pattern you have to go to the measure where you want the pattern inserted, initiate the Insert function, call up the pattern you want to insert, and press the ACCent (ENTER) button. The new pattern will be inserted and all the other patterns from that measure on will be shifted one measure later.

You can use any blank pattern as a measure of silence.

The best way to learn about inserting measures is to take a short song like the one we've been working on and put a measure of silence somewhere in the middle. To insert a measure of silence just pick any blank pattern. We'll insert our silent pattern right before Pattern B48 in Measure 4. Here's how to do it:

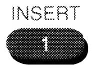
HOW TO Inserting a Pattern Into a Song

Step 1 Hold down the SHIFT button and press Drum Pad #2 (COWBELL). This will take you to Song Edit Mode.

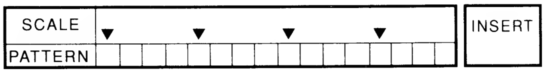
Step 2 With the SHIFT button still down press Numeric Key #7. This will make sure you are on Song 7.

Step 3 Press the >/+1 button 3 times to move to Measure 4.

Step 4 With the SHIFT button held down press Numeric Key #1 (INSERT).



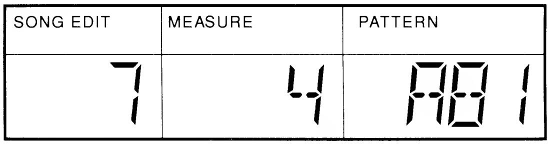
Inserting a pattern enters the new pattern at the currently displayed measure and makes every pattern after it occur one measure later.



Step 5 With the SHIFT button still held down select any unused pattern with the numeric keys.

Try Pattern A81 by pressing BANK, 8, 1. Keep the SHIFT button down the whole time.

Step 6 With the SHIFT button still held down press the ACCent button.



If you move around in the song with the -1/< and >/+1 buttons you'll notice that the pattern you inserted is now in Measure 4, that Measures 1-3 are unchanged, and that all the patterns after Measure 4 have been moved one measure later in the song. To hear the change press SHIFT-Drum Pad #1, and then press the START button.

OK, now let's delete that measure of silence. To delete the blank pattern you just inserted into Measure 4:

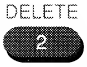
HOW TO Deleting a Pattern From a Song

Step 1 Hold down the SHIFT button and press Drum Pad #2 (COWBELL). This will take you to Song Edit Mode.

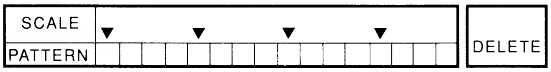
Step 2 With the SHIFT button still down press Numeric Key #7. This will make sure you are on Song 7.

Step 3 Press the >/+1 button 3 times to move to Measure 4.

Step 4 With the SHIFT button held down press Numeric Key #2 (DELETE).



Deleting a pattern removes the pattern at the currently displayed measure and makes every pattern after it occur one measure earlier.



Step 5 With the SHIFT button still held down press the ACCent (ENTER) button.

To hear the change press SHIFT-Drum Pad #1, and then press the START button. Pattern B48 is back in Measure 4 and everything is back to normal.

Changing a Pattern in a Song

It's easy to change a pattern in a song. Let's take the song we just entered (Song 7) and change Measure 4 from Pattern B48 to Pattern B54. Here's how to do it:

HOW TO Changing Patterns in a Song

Step 1 Hold down the SHIFT button and press Drum Pad #2 (COWBELL). This will take you to Song Edit Mode.

Step 2 With the SHIFT button still down press Numeric Key #7. This will make sure you are on Song 7.

Step 3 Press the >/+1 button 3 times to move to Measure 4.

Step 4 Select Pattern B54 by pressing Numeric Key #5 followed by Numeric Key #4.

SONG EDIT	MEASURE	PATTERN
7	4	B54

Changing a pattern in a song does not affect the location of any other patterns.

Step 5 Press ACCent (ENTER).

That's all there is to it. Now, Pattern B54 will play in Measure 4 instead of Pattern B48. To hear the change press SHIFT-Drum Pad #1, and then press the START button.

Copying and Chaining

Let's say you wanted Song 7 to play through exactly two times and stop. You could turn on Repeat Play but that wouldn't quite do it—your song would just play over and over until you hit the STOP/CONTINUE button. But with the DR-550's copying and chaining features you can copy Song 7 into Song 8 and then chain the two songs together so that Song 8 plays as soon as Song 7 finishes.

For this example, we'll copy Song 7 into Song 8 and then chain the two songs together. To make the copy you'll enter Song Edit Mode, select the destination for the copy operation (Song 8), and then copy Song 7 into it. Here we go:

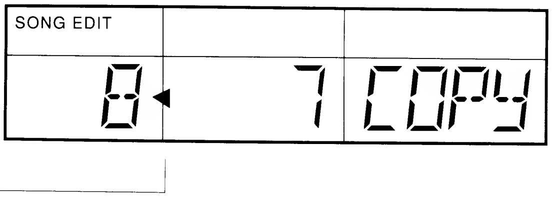
HOWTO Copying a Song

Step 1 Hold down the SHIFT button and press Drum Pad #2 (COWBELL). This will take you to Song Edit Mode.

Step 2 With the SHIFT button still down press Numeric Key #8. When making a copy, choose the destination first. When Song 8 is in the display release the SHIFT button.

Step 3 Hold down the SHIFT button again and press Numeric Key #4 (COPY).

Step 4 With the SHIFT button still held down press Numeric Key #7. Song 7 is the source for the copy operation. Keep the SHIFT button down.



The arrowhead tells you what's being copied and where.

Step 5 With the SHIFT button still held down press the ACCent (ENTER) button.

If you step through the measures in Song 8 with the -1/< and >/+1 buttons you'll see that it is an exact copy of Song 7. Now all you have to do is chain these two songs together. To chain Song 7 to Song 8:

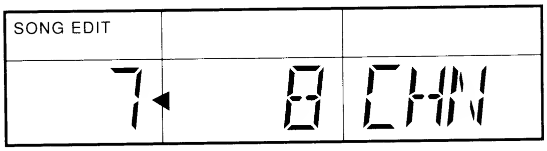
HOWTO Chaining Two Songs Together

Step 1 Hold down the SHIFT button and press Drum Pad #2 (COWBELL). This will take you to Song Edit Mode.

Step 2 With the SHIFT button still down press Numeric Key #7. When creating a chain, choose the first song in the chain first. When Song 7 is in the display release the SHIFT button.

Step 3 Hold down the SHIFT button again and press Numeric Key #5 (CHAIN).

Songs of up to 160 measures can be created. A total of 1280 measures can be programmed to play in sequence (as one long song) if all 8 Songs in the DR-550 are chained together.



Step 4 With the SHIFT button still held down press the >/+1 button.

That's all there is to it. Now, go back to Song Play Mode (press SHIFT-Pad #1) and call up Song 7 by pressing Numeric Key #7, then press the START button. When Song 7 finishes, Song 8 will start without missing a beat.

A Note About Chaining Songs: Each song in the DR-550 can be chained to the next highest numbered song. That is, Song 1 can only be chained to Song 2, Song 2 to Song 3, and so on. Song 8 can only be chained to Song 1. If the Repeat Play function is on, the DR-550 will repeat the entire song chain (not just one of the songs).

DR-550
Dr. Rhythm

4
CHAPTER
FOUR

Digging In to the Factory Drum Sounds

New Possibilities

As we've mentioned before your DR-550 comes from the factory with 48 terrific sounds in it. But the DR-550 also has some powerful editing commands that allow you to alter these factory instruments. Literally dozens of variations can be created on each drum sound giving you an extremely wide variety of percussion timbres with which to compose.

The Pad Parameters

Even though you can't alter the actual drum samples for the DR-550's drum sounds, there are still many possibilities for creating new instrument sounds by using the pad parameters.

Each drum pad has its own set of parameters that determines how the sound assigned to it will play. Remember, even though there are only 12 physical pads you really have 48 different pads to work with (4 banks of 12 pads each). Each pad has six different parameters that you can edit to create new instrument sounds. We'll talk about the four most important ones here: Assign, Tone Color, Decay, and Pan. You'll find a complete discussion of all six parameters on pages 54-59 of your Owner's Manual.

You can edit the pad parameters in Pad Edit Mode. To get into Pad Edit Mode, hold down the SHIFT button and press Drum Pad #7 (M TOM). From there you can scroll through the six parameters by holding down the SHIFT button and pressing the -1/< and >/+1 buttons.

NOTE: If you make any changes to the factory pad settings and you want to get the original settings back you can initialize your DR-550 (which will erase any patterns and songs you have created) or you can re-enter the correct pad parameters. You'll find some of the original factory pad settings listed on pages 16 and 17 in your Owner's Manual.

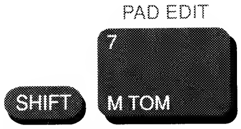
Assign

Each of the 48 pads has one sound assigned to it. Any of the DR-550's 48 sounds can be assigned to any of its 48 pads. You can even assign the same sound to any number of different pads. To change the sound assigned to a drum pad:

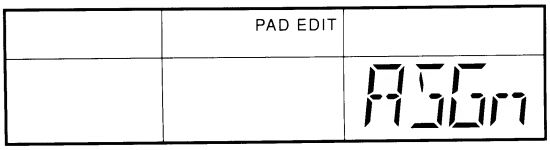
HOW TO **Assigning a Sound to a Drum Pad**

Step 1 Hold down the SHIFT button and press Drum Pad #7 (M TOM). This will take you to Pad Edit Mode.

Step 2 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the Assign parameter ("ASGn" in the display).



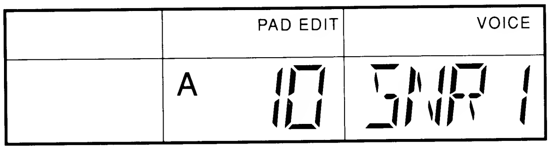
SHIFT-Pad #7 takes you to Pad Edit Mode.



Step 3 Tap the drum pad for the sound you want to change. The instrument currently under that pad will be displayed for you.

Step 4 Select the sound you want to assign to this pad by scrolling through the sound list with the -1/< and >/+1 buttons.

Drum sounds are sometimes called "voices" on the DR-550.



If, when you took your DR-550 out of the box you tapped on all 48 pads to listen to the factory sounds, you wouldn't have heard all the sounds in the unit because a few of them aren't initially assigned to a pad. That being the case, you might want to scroll through the list now to hear the few sounds that you missed like Solid Kick, Rim Shot Snare, Bright Snare, Pedal Closed Hi Hat, and Tambourine. The complete list of sounds is on page 55 of your Owner's Manual.

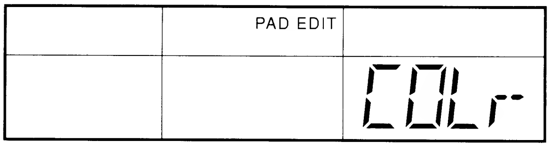
Tone Color

You can alter the timbre of a sound with the Tone Color parameter. To change the Tone Color of a sound assigned to a drum pad:

HOW TO Changing the Tone Color of a Sound

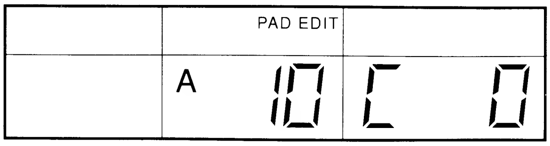
Step 1 Hold down the SHIFT button and press Drum Pad #7 (M TOM). This will take you to Pad Edit Mode.

Step 2 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the Tone Color parameter ("COLr" in the display).



Step 3 Tap the drum pad you want to change. The Tone Color setting for the instrument currently under that pad will be displayed for you.

Step 4 Set the Tone Color value (from 0 to 7) with the -1/< and >/+1 buttons.



Changing an instrument's Tone Color is a very effective way to alter a drum sound.

Each of the 8 Tone Color settings is a different type of filtering that alters the basic timbre of the sound. You can really hear the filter working if you take a sound like the Snare Drum or Crash Cymbal from Bank A and play either one repeatedly while scrolling through different Tone Color settings with the -1/< and >/+1 buttons. Give it a try!

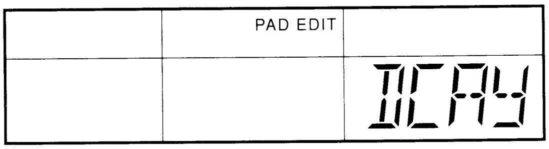
Decay

Some sounds like the Crash Cymbal can ring for a long time. Other sounds, like the Hand Clap, don't last nearly as long. If you want to change the length of a sound use the Decay parameter. To change the Decay of a sound assigned to a drum pad:

HOW TO Changing the Decay of a Drum Sound

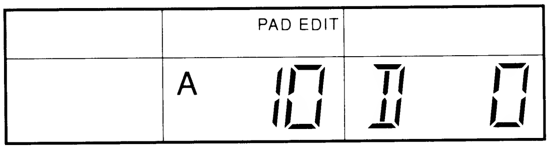
Step 1 Hold down the SHIFT button and press Drum Pad #7 (M TOM). This will take you to Pad Edit Mode.

Step 2 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the Decay parameter ("DCAY" in the display).



Step 3 Tap the drum pad you want to change. The Decay setting for the instrument currently under that pad will be displayed for you.

Step 4 Set the Decay value (from -32 to 32) with the -1/< and >/+1 buttons.



In general, you'll want sounds like cymbals to ring as long as possible so use high values for the decay parameter with those sounds.

The higher the number, the longer the sound will last. With some sounds it may be difficult to tell if the sound is getting longer. That is, even though you may be increasing the Decay on a sound like the Side Stick, for instance, it won't seem as though the sound is getting any longer. With sounds like the Crash and Ride Cymbals, the effect is much more dramatic.

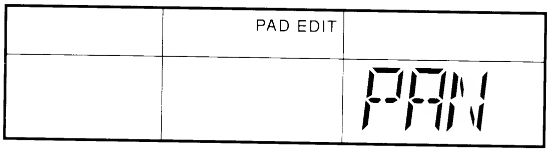
Pan

The Pan parameter determines a sound's position in the stereo field. To change the Pan position of a sound assigned to a drum pad:

HOW TO Setting the Panning of a Drum Sound

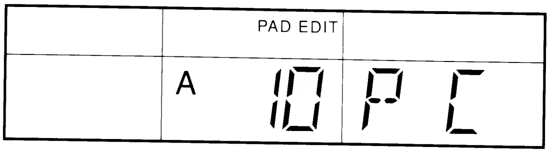
Step 1 Hold down the SHIFT button and press Drum Pad #7 (M TOM). This will take you to Pad Edit Mode.

Step 2 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the Pan parameter ("PAN" in the display).



Step 3 Tap the drum pad you want to change. The Pan setting for the instrument currently under that pad will be displayed for you.

Step 4 Set the Pan (L3-L1, C, or R1-R3) with the -1/< and >/+1 buttons.



Creative panning is one of the simplest and most effective ways of improving the sound of your drum patterns.

"R3" means 3 pan positions to the right (hard right). "L3" means 3 pan positions to the left (hard left). "C" means that a sound is panned in the center of the stereo field. In the factory patterns, you'll notice that kick and snare sounds are usually panned in the center and that tom toms pan from left to right as they are played high to low. These are typical assignments that represent contemporary practice in pop music production. You'll find that very few of the factory sounds are panned out to L3 or R3 (the maximum amount). For a more "active" sounding mix (more left and right "motion" in your drum patterns) try setting several instruments to these extremes.

When a sound is panned to "R3" that sound is present at the right output only. When a sound is panned to "L3" that sound is present only at the left output. When a sound is panned in the center, "C", equal amounts of the sound are present at each output. To get the best idea of how the pan positions affect the sound of a drum pattern, listen to the DR-550 with stereo headphones. For a good conceptual illustration of panning take a look at page 58 of your Owner's Manual.

Editing the Pads, Not the Sounds

It's important for you to keep in mind that when you make an edit to any of these pad parameters that you really are just editing the characteristics of the drum pad itself, and not the sound that's assigned to it. The sounds themselves cannot be edited. They can only be programmed to play back differently by changing the pad settings.

When you record a pattern, the DR-550 doesn't record the sounds you play, it only records the pads you press and when you press them. If, for example, you recorded a kick and snare part into a pattern and then, through the Assign parameter, changed the sounds assigned to those two pads, your pattern would play back with the new sounds you assigned and not the original kick and snare you recorded it with. The only exceptions to this rule are the factory patterns which use a completely independent set of pad parameters that cannot be altered in any way. So remember, when you edit the pad parameters you're editing the pads, not the sounds.

It's very important to remember that when you edit a pad parameter you're really editing the pad and not the sound. Any change you make will be reflected in any pattern that uses the pad you have altered.

Activity #8—Using a Custom Drum Kit

In this Activity, you'll create a small custom drum kit and a simple drum pattern to go with it. This will give you some ideas about how you may want to use the pad parameters in your own work with the DR-550. First, you'll create some new drum sounds (four new hi hats and an extra snare) and then you'll create a pattern that makes use of these new sounds.

You're going to use the sounds in Bank A as a starting point, so call up Bank A now by pressing the BANK button until the upper line of the display reads "PAD BANK A." You'll start by making a second version of the snare sound in Bank A where the side stick sound is now.

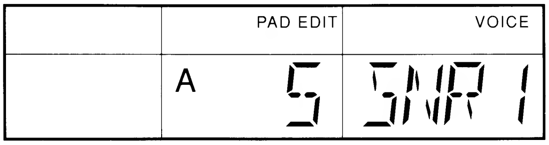
This Activity involves altering several of the pad parameters. If you are worried about changing any patterns or songs you have already created you should save your work to cassette tape before going any further. See Chapter 6 for instructions on saving your work.

Step 1 Hold down the SHIFT button and press Drum Pad #7 (M TOM).

Step 2 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the Assign parameter ("ASGn" in the display).

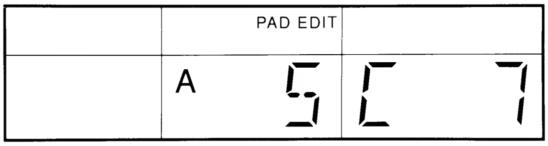
Step 3 Tap Drum Pad #5 (S STICK).

Step 4 Use the -1/< and >/+1 buttons to find Snare 1 ("SNR1" in the display).



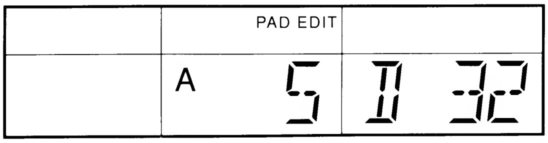
Step 5 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the Tone Color parameter ("COLr" in the display).

Step 6 Use the -1/< and >/+1 buttons to set the Tone Color to 7.



Step 7 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the Decay parameter ("DCAY" in the display).

Step 8 Use the -1/< and >/+1 to buttons to set the Decay to 32.



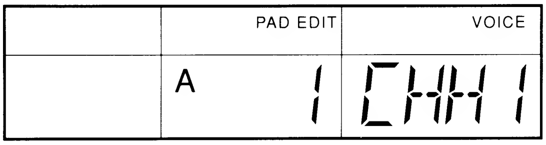
If you tap on the SIDE STICK pad and then on the SNARE pad you'll hear two pretty different snare sounds. They're both made from the same raw materials (Snare 1), but the pad parameters for Tone Color and Decay are different.

Now you'll create four new hi hats (based on Closed Hi Hat 1) on the CLAP, COWBELL, CRASH, and RIDE pads in Bank A. The idea here will be to create a set of hi hat sounds that pan around in a semi-circle when you put them into the pattern.

Step 9 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the Assign parameter ("ASGn" in the display).

Step 10 Tap Drum Pad #1 (CLAP). Use the -1/< and >/+1 buttons to assign Closed Hi Hat 1 ("CHH1" in the display) to this pad.

Using the same instrument sound with different pad settings is a great way to add variety to your drum patterns.



Step 11 Tap Drum Pad #2 (COWBELL). Use the -1/< and >/+1 buttons to assign Closed Hi Hat 1 ("CHH1" in the display) to this pad.

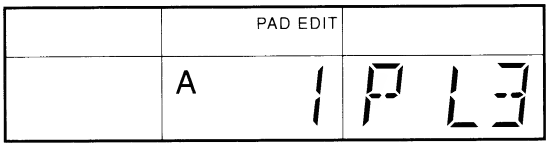
Step 12 Tap Drum Pad #3 (CRASH). Use the -1/< and >/+1 buttons to assign Closed Hi Hat 1 ("CHH1" in the display) to this pad.

Step 13 Tap Drum Pad #4 (RIDE). Use the -1/< and >/+1 buttons to assign Closed Hi Hat 1 ("CHH1" in the display) to this pad.

That takes care of the instrument assignments, now you'll set up the pan positions.

Step 14 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the Pan parameter ("PAN" in the display).

Step 15 Tap Drum Pad #1 (CLAP). Use the -1/< and >/+1 buttons to set the pan position to L3.



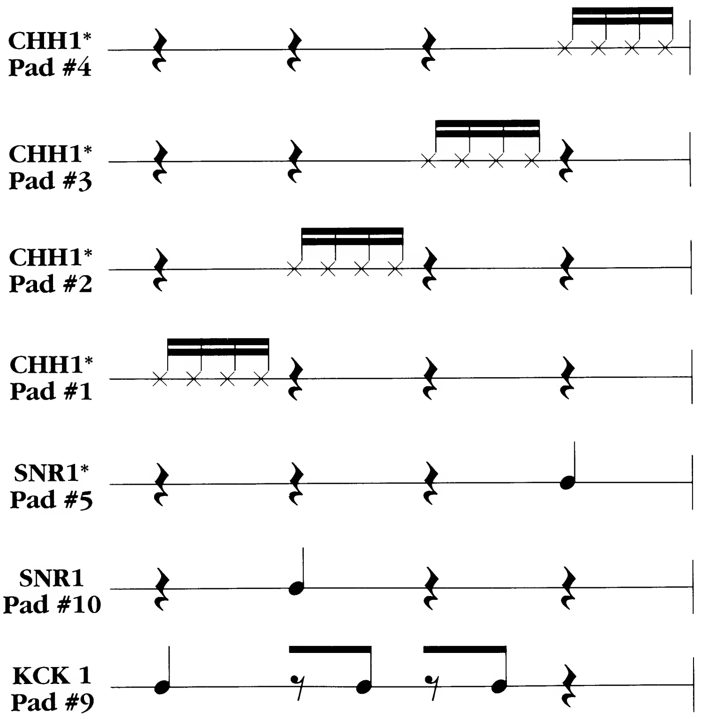
Step 16 Tap Drum Pad #2 (COWBELL). Use the -1/< and >/+1 buttons to set the pan position to L1.

This pattern features a simple but effective use of panning.

Step 17 Tap Drum Pad #3 (CRASH). Use the -1/< and >/+1 buttons to set the pan position to R1.

Step 18 Tap Drum Pad #4 (RIDE). Use the -1/< and >/+1 buttons to set the pan position to R3.

If you tap on the pads for your four new hi hat sounds you'll hear them move around in a semi-circle from left to right. Your custom drum kit is ready for action. Here's a pattern you can record that makes use of the kit you just created.



*** Pad settings have been edited.**

SCALE	▼				▼				▼				▼			
Pad #4													●	●	●	●
Pad #3									●	●	●	●				
Pad #2					●	●	●	●								
Pad #1	●	●	●	●												
Pad #5													●			
Pad #10					●											
Pad #9	●						●				●					

All sounds are in Pad Bank A

Here's the graphic notation of the same pattern if you need it. Record the pattern and listen to it. Pay special attention to the two snare sounds and the panning hi hat effect.

DR-550
Dr. Rhythm

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CHAPTER
FIVE

Using the DR-550 in Your MIDI Setup

An Added Dimension

The DR-550 is a terrific instrument all by itself but if you have other MIDI equipment you'll definitely want to get the unit into your MIDI setup. The DR-550 works great with MIDI keyboards, sequencers, and drum pad controllers. In fact, MIDI adds a whole new dimension to the unit's capabilities.

Getting Started With MIDI and the DR-550

If you don't know anything at all about MIDI, you'll find a good general introduction right here in this chapter on pages 54-57. Even if you have some familiarity with MIDI you might want to read this section anyway.

If the DR-550 is the first piece of MIDI equipment you've ever worked with, don't worry. In this chapter, we'll tell you what MIDI is and how your DR-550 interacts with other MIDI devices like MIDI keyboards, MIDI sequencers, and computers running MIDI software.

What is MIDI?

Music technology has come a long way in the last 10 years between 1980 and 1990. There have been many important developments, but the most important has been the creation and development of MIDI—the Musical Instrument Digital Interface. At the National Association of Music Merchants (NAMM) convention in January of 1983, music history was made when a Roland JP-6 and a Sequential Circuits Prophet 600 communicated with each other via MIDI cables. This was the first time this had been done with independently developed products from different manufacturers.

Roland was one of the first companies to mass-produce high quality MIDI instruments.

Back in 1983, MIDI was the new kid on the block and nobody really knew what to make of it. These days, MIDI is a fact of our musical lives. There are MIDI cables, MIDI keyboards, MIDI sequencers, MIDI drum machines (like the DR-550), and dozens of other MIDI products (both musical and non-musical). But MIDI itself isn't a cable or a keyboard or a drum machine or anything like that. It's really just paper and ink—a printed document describing a bunch of computer commands and a couple pieces of hardware. This document, officially called *The Detailed MIDI Specification* (or MIDI Spec), defines a communications standard for electronic musical instruments.

Musical...

Computer communications standards are developed all the time as a way of stimulating development in computer and related industries. For example, the American Standard Code for Information Interchange or ASCII ("ask-key") is a standard for how computers represent the characters of the English language. MIDI was developed as a communications standard for musical instruments. The MIDI Spec lists commands that pertain specifically to musical events like playing notes and pressing sustain pedals.

...Instrument...

MIDI isn't just for synths and drum machines anymore. Some day soon you may even see MIDI-controlled home stereo systems and other consumer electronics products with MIDI.

MIDI was designed specifically for musical instruments. One of the very first incarnations of MIDI was something called the Universal Synthesizer Interface. But today, synthesizers are only a small part of the MIDI world. In addition to synthesizers and other musical instruments, many other types of electronic devices use MIDI as well like effects processors and lighting consoles. Virtually any device with a micro-processor in it can use MIDI if it is programmed to understand the commands listed in the MIDI Spec. Because all MIDI devices have micro-processors, you can think of them as just another type of computer pre-programmed for a very specific application. For example, the DR-550 is a computer that has been pre-programmed for recording drum patterns and playing back terrific drum sounds.

...Digital...

MIDI instruments communicate with each other by sending numbers back and forth along MIDI cables. Numbers are the only thing that MIDI instruments can respond to. Sometimes people get the idea that MIDI instruments have special musical properties or that they somehow "understand" music itself. That isn't true at all. Music and sound can't be communicated over a MIDI cable. Actions like playing a note on a keyboard or pressing a sustain pedal must be translated into numbers before they mean anything to a MIDI instrument.

The basic Note On message is made up of three numbers: 1) The first number holds the MIDI Channel and the Note On status command, 2) The second number holds the MIDI note number for the note that is being played, and 3) The third number holds the velocity information.

When you play one instrument from another over MIDI, there's nothing in the MIDI Spec that defines the actual musical event that will occur. For example, if you've got a Roland D-5 keyboard MIDIed up to your DR-550 and you press middle C, the only information the DR-550 is going to get is a number describing the MIDI channel the message is going out on (and the Note On command), a number for the note you played (MIDI note number 60 in this case), and a number between 1-127 representing how hard you pressed the key down. There's nothing in the MIDI Spec that says anything about whether the note you played will trigger a kick drum or a cabasa, or whether it will be loud and bright, or dull and soft. You can certainly play a kick drum or cabasa sound on your DR-550 from a D-5 keyboard, but it's the way the instruments are set up internally and not MIDI that will determine the actual musical event.

...Interface

Interface, as it is used here, refers to the ability of two devices to communicate with each other using the commands in the MIDI Spec. Because it's just paper and ink, MIDI itself doesn't provide the physical connection between two devices—that's what MIDI cables are for. People often confuse MIDI (the document) with a piece of hardware called a MIDI interface. The term "MIDI interface" is usually used to describe a piece of hardware that you connect to a computer running MIDI software. Most computers don't have MIDI plugs built into them. If you want to connect a keyboard to a computer you need a set of MIDI plugs to connect it with. That's all a MIDI interface really is—a set of MIDI plugs that allow a personal computer to be connected to (or "interfaced" with) other MIDI devices.

MIDI Ports

In order for something to be called a piece of MIDI equipment it has to have at least one MIDI port. There are three types of ports: MIDI In, MIDI Out, and MIDI Thru. Each type of port has one (and only one) function:

- MIDI In ports can only receive MIDI data.
- MIDI Out ports can only send MIDI data.
- MIDI Thru ports can only echo MIDI data received at the MIDI In port.

The DR-550 only has a MIDI In port. It can receive MIDI data from other devices but it cannot send MIDI data.

MIDI Connections

No matter how many MIDI devices you have in a MIDI setup there are really only two ways to connect MIDI devices that make any sense:

Cabling up MIDI devices is very simple. Just follow these two basic rules.

- MIDI Outs should only be connected to MIDI Ins.
- MIDI Thrus should only be connected to MIDI Ins.

Connecting Outs to Outs, Ins to Ins, Thrus to Thrus, or Thrus to Outs won't get you anywhere.

Because it only has a MIDI In port, the DR-550 must be connected to another MIDI device via that device's MIDI Out or MIDI Thru ports.

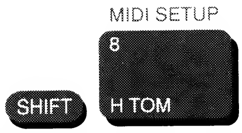
MIDI Channels

You may have heard that there are 16 MIDI channels. That's true. But it's important to make the distinction that these channels are not discrete physical things like the audio channels on a mixing board. They're just numeric designations that are sent at the front of most MIDI messages. These designations tell other MIDI devices if they are supposed to act on a particular MIDI message or just ignore it.

When you press a key on a MIDI keyboard connected to another MIDI device, a short digital message (3 numbers) passes down the MIDI cable. The MIDI channel is part of the first number of that message. Only devices that are "listening" to that channel will respond. To determine if a particular MIDI message is intended for it, all the DR-550 has to do is look at the first number in the message where the channel information is encoded. If the channel number of the message matches the DR-550's MIDI receive channel it processes and responds to the message. If the number does not match, the message is ignored.

To make sure that an instrument like the DR-550 is "listening" to a particular channel its MIDI mode must be set properly (Omni Off is the correct choice) and its MIDI receive channel must be set to match the channel of the appropriate transmitting device (MIDI Channel 10 is the DR-550's default channel).

The DR-550's MIDI Setup Mode



SHIFT-Pad #8 takes you to MIDI Setup Mode.

Holding down the SHIFT button and pressing Drum Pad #8 (H TOM) takes you into the DR-550's MIDI Setup Mode. Here you can set up the DR-550 to respond properly to MIDI keyboards, drum pad controllers, and sequencers. In MIDI Setup Mode you can set the values for the DR-550's MIDI Receive Mode, MIDI Receive Channel, and the MIDI note numbers for each of its 48 drum pads.

MIDI Receive Mode

There are two MIDI Mode choices on the DR-550—Omni On Mode, and Omni Off Mode. When the DR-550 is in Omni Off

Mode (its default) it will receive MIDI messages only on the MIDI Channel specified by the MIDI Receive Channel parameter. That is, if the DR-550 is set to Omni Off Mode and the MIDI Receive Channel is set to Channel 10, the DR-550 will only respond to MIDI messages sent to it on Channel 10. By the way, this mode is also called Poly Mode and sometimes Omni Off/Poly Mode.

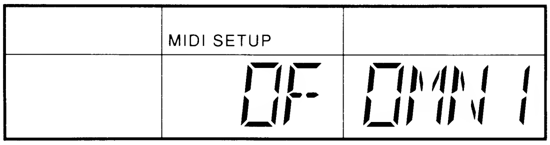
When the DR-550 is in Omni On Mode (sometimes just called Omni Mode) it will respond to MIDI messages sent to it on any MIDI channel regardless of the setting of the MIDI Receive Channel parameter. In general, Omni On Mode will not be as useful as Omni Off Mode.

To set the DR-550's MIDI Receive Mode:

HOWTO Setting the MIDI Receive Mode

Step 1 Hold down the SHIFT button and press Drum Pad #8 (H TOM).

Step 2 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the MIDI Mode parameter. You'll see the word "OMNI" in the display.



Step 3 Use the -1/< and >/+1 buttons to turn Omni Mode on and off.

MIDI Receive Channel

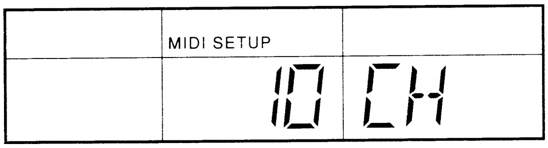
The MIDI Receive Channel parameter determines the MIDI Channel the DR-550 will respond to when it is in Omni Off Mode. The default MIDI Channel is 10. To set the DR-550's MIDI Receive Channel:

HOWTO Setting the MIDI Receive Channel

Step 1 Hold down the SHIFT button and press Drum Pad #8 (H TOM).

Step 2 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the MIDI

Channel parameter. You'll see the letters "CH" in the display.



Step 3 Use the -1/< and >/+1 buttons to set the MIDI Receive Channel.

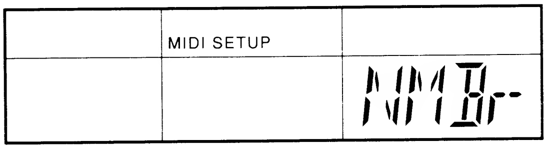
MIDI Note Numbers

Each of the DR-550's 48 drum pads can be played by a different MIDI note number. A chart showing the default MIDI note number assignments for each pad is in your Owner's Manual on page 92. You'll notice that some pads are set to 0. The sounds assigned to these pads cannot be triggered via MIDI unless their note numbers are changed. To set the MIDI Note Number for a drum pad:

HOW TO Assigning MIDI Note Numbers

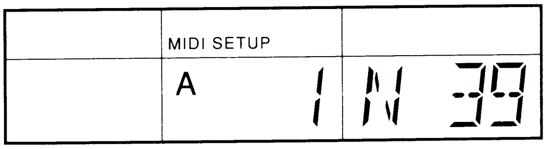
Step 1 Hold down the SHIFT button and press Drum Pad #8 (H TOM).

Step 2 Hold down the SHIFT button again and use the -1/< and >/+1 buttons to find the MIDI Note Number parameter. You'll see the letters "NMBr" in the display.



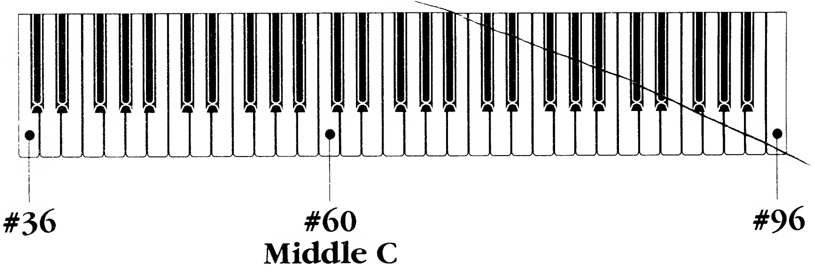
Step 3 Tap the pad you want to assign.

Step 4 Use the -1/< and >/+1 buttons to set the MIDI Note Number for that pad.

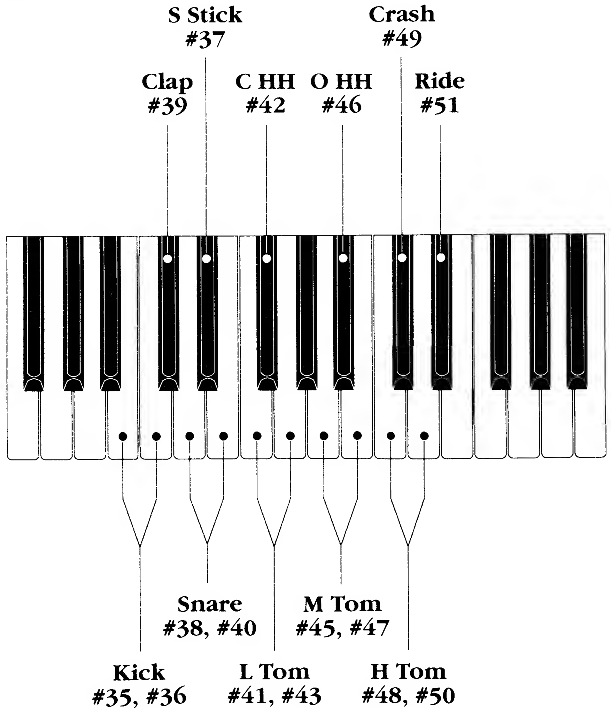


With the proper note number settings you can access all 48 of the DR-550's sounds over MIDI from one MIDI keyboard. Here are some tips for choosing note numbers that will work out well:

- The standard 61-note MIDI keyboard transmits note numbers from 36 to 96 when it isn't transposed. Try to pick numbers in this range whenever possible. Middle C is note number 60.



- Don't assign more than one pad to the same note number—only one of the sounds will play.
- Roland has developed a standard for the basic percussion sounds and note numbers that they adhere to very consistently. Here's what it looks like:



If you assign more than one drum pad to the same MIDI note number, the sound under the pad that is closest to Bank A will play. If two or more pads with the same note number are in the same bank, the sound assigned to the lowest-numbered pad will play.

- Many other manufacturers use this as a starting point for MIDI note number assignments as well. The closer you follow it the fewer problems you'll have when you use your DR-550 with other MIDI equipment.

Using the DR-550 With a MIDI Keyboard

To use the DR-550 with a MIDI keyboard all you have to do is:

HOW TO Connecting to a MIDI Keyboard

Step 1 Connect a MIDI cable from the MIDI Out of your keyboard to the DR-550's MIDI In.

Step 2 Set the MIDI Receive Channel on the DR-550 to match the transmitting channel of your MIDI keyboard.

Step 3 Assign MIDI note numbers on the DR-550 as necessary to match the notes transmitted by your keyboard.

Step 4 Play notes on the keyboard to trigger the DR-550's drum sounds.

If you want to hear the DR-550 when you press a key but you don't want to hear the sound being produced by your own MIDI keyboard, you may want to turn off a parameter in your keyboard called Local Control. See your keyboard's Owner's Manual for an explanation of how to do this.

Even though the DR-550's drum pads are not velocity sensitive you can still enjoy velocity response if you play the DR-550 from a MIDI keyboard. If you have a velocity sensitive keyboard the DR-550's internal sounds will respond dynamically to your playing (harder playing will produce louder sounds). This is one of the biggest advantages of using the DR-550 in this way. In addition to just playing the DR-550 from a keyboard, you can also record from your keyboard into the DR-550 in Real Time Recording mode. Step Recording from a MIDI keyboard is not possible.

Playing sounds on the DR-550 from a MIDI keyboard with velocity sensitivity is one of the best ways to use the instrument.

Using the DR-550 With a Drum Pad Controller

Using the DR-550 with a pad controller is exactly like using it with a MIDI keyboard. Just connect the MIDI Out on the controller to the MIDI In on the DR-550, make sure the transmitting and receiving channels match, and assign the pads on the controller to transmit the correct MIDI note numbers for the sounds you want to play.

HOWTO Connecting to a MIDI Drum Controller

Using the DR-550 With a MIDI Sequencer

There are three ways to use the DR-550 with a MIDI sequencer:

1) As a MIDI sound source only where notes sent from the sequencer trigger drum sounds in the same way that notes played from a MIDI keyboard do.
2) As a "slaved" device playing its own patterns in sync with a sequencer.
3) As a combination of 1 and 2.

In each case, the only MIDI connection that needs to be made is from the sequencer's MIDI Out to the DR-550's MIDI In.

To use the DR-550 as a MIDI sound source with a sequencer all you have to do is set the DR-550's MIDI Receive Channel to match the transmitting channel of the sequencer track that has the drum note data on it. Data recorded into the sequencer will play back through the drum machine just as though the DR-550 were being played from a keyboard.

To use the DR-550 as a "slaved" device playing one of its songs in sync with other sequenced tracks:

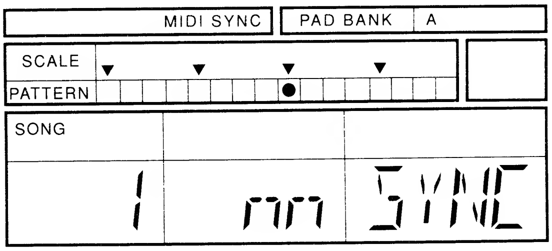
HOWTO Setting the MIDI Sync Mode

Step 1 Hold down the SHIFT button and press Drum Pad #1 (CLAP) to put the DR-550 into Song Play Mode.

Step 2 Call up the song you want to play in sync with the sequencer by pressing the appropriate numeric key.

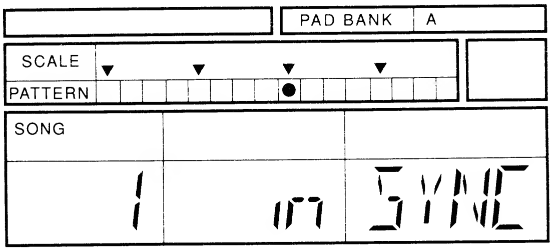
Step 3 Hold down the SHIFT button and press the VOICE button.

Step 4 With the SHIFT button still held down press the >/+1 button to switch the DR-550 from Internal Sync to MIDI Sync. You'll see the words "MIDI SYNC" at the very top of the display.



When the DR-550 is in Internal Sync the drum machine is controlled by the START and STOP buttons. When the DR-550 is in MIDI Sync the START and STOP buttons are disabled—the unit is "slaved" to the master device (the sequencer) and will only start and stop when it receives the appropriate MIDI commands. To switch the DR-550 back to Internal Sync hold down the SHIFT and VOICE buttons and press the >/+1 button.

If, while in Song Play Mode, you press the START button and the DR-550 doesn't start playing your song, check the sync mode to make sure MIDI Sync is off.



While acting as a slave device the DR-550 can still receive MIDI notes from a keyboard or another sequence track. You could, for example, record the basic beat for a sequence into a DR-550 song, have that song play in sync with your sequencer, and record your fills on another track.

Activity #9—Setting Up the DR-550 in a Complete MIDI System

In this Activity you'll learn how to set up your DR-550 for a MIDI sequencing session. We'll give you two basic approaches to connecting different MIDI devices to a sequencer. Follow the first approach (Steps 1a, 2a, and 3a) if your sequencer has one MIDI Out port. Follow the second approach (Steps 1b, 2b, and 3b) if your sequencer has more than one MIDI Out port.

Let's say you've got a typical MIDI sequencing setup that includes the DR-550, a D-5 MIDI keyboard, and a PR-100 sequencer which has one MIDI Out port. You've decided you want to use the drum machine as a sound source and you want to play your drum parts from the D-5 keyboard to be recorded on a track on the PR-100. Here's how you set things up:

Follow these steps if your sequencer has only one MIDI output.

Step 1a Connect the MIDI Out of your keyboard to the MIDI In of your sequencer.

Step 2a Connect the MIDI Out of your sequencer to the MIDI In of your keyboard.

Step 3a Connect the MIDI Thru of your keyboard to the MIDI In of the DR-550.

In this example, let's say you're using the DR-550, a D-5 MIDI keyboard, and an MC-300 sequencer which has two MIDI Out ports. Once again, you want to use the drum machine as a sound source and you want to play your drum parts from the D-5 keyboard to be recorded on a track on the MC-300. Here are the MIDI connections for this setup:

Follow these steps if your sequencer has more than one MIDI output.

Step 1b Connect the MIDI Out of your keyboard to the MIDI In of your sequencer.

Step 2b Connect one of the MIDI Outs on your sequencer to the MIDI In of your keyboard.

Step 3b Connect the other MIDI Out on your sequencer to the MIDI In of the DR-550.

That takes care of the MIDI connections. To record drum parts on the sequencer using the DR-550 as a sound source here's what you do:

Step 4 Set your keyboard to transmit on MIDI Channel 10. This is the default MIDI Receive

Channel for the DR-550.

Step 5 Enable the sequencer's Soft Thru function. This will allow MIDI data to pass out from the keyboard, into the sequencer, and out to the DR-550.

Step 6 To avoid MIDI "feedback" set your keyboard to Local Control Off (see your keyboard's Owner's Manual).

Step 7 Select a track to record on.

Step 8 Start recording on the sequencer.

Step 9 Start playing on the keyboard.

The three most common sources of problems in a MIDI setup are: 1) Incorrect cable connections, 2) Incorrect channel and mode assignments, and 3) Forgetting to power up a piece of equipment.

With this setup, notes that you play on the keyboard are sent into the sequencer to be recorded. Those same notes are also sent through the sequencer and back through the keyboard so you can hear the drum sounds as you cut the track. When using the DR-550 as a MIDI sound source only, the unit should be in its Internal Sync mode.

HOW TO Troubleshooting Your MIDI System

If you're having problems with this type of setup here's a quick troubleshooter's checklist:

- Make sure the cable connections are correct.
- Make sure the transmitting channel of the keyboard matches the receiving channel of the drum machine.
- Make sure the sequencer's Thru function is on.
- Make sure Local Control is turned off on your keyboard.
- Make sure a sequencer track is record-enabled.
- Make sure the drum machine is in its Internal Sync mode.

DR-550
Dr. Rhythm

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CHAPTER SIX

Saving Your Patterns and Songs

Better Safe Than Sorry

When you turn off the DR-550 at the end of a session the work you've done (i.e., the patterns, songs, and custom drum kits you've created) is all kept safe and sound in the unit's battery-backed RAM memory. But the DR-550 offers cassette tape storage as well. Saving your work on tape is important for two reasons: 1) It allows you to maintain a complete backup of any work you've done in case the DR-550 gets reset or otherwise loses the contents of its RAM memory, and 2) It allows you to create and save more patterns, songs, and drum pad settings than you could using the DR-550 all by itself.

Take a few minutes with this chapter to learn the process of saving and loading data using cassette tape. All the creative work that you do with the DR-550 won't be of much value to you if you lose it by accidentally initializing the instrument or making an edit that wipes out a bunch of great patterns. Saving your patterns, songs, and pad assignments is really easy. Learning how to store your data (and doing it) will make working with the DR-550 a lot more satisfying in the long run.

Saving the work you do on the DR-550 is fast and easy. It only takes about two minutes and a half dozen button presses. It doesn't cost much either. You can use virtually any cassette recorder and just about any cassette tape. A typical 90-minute cassette will allow you to back up the complete contents of the DR-550's memory more than 50 times. You don't even have to use expensive tape—normal bias is just fine. If you backed things up once a week that would probably be adequate, and the money you spent on the tape would probably be the best money you spent all year.

Here's How It Works

The same jack on the DR-550 is used for both saving and loading.

There's a jack on the back of the DR-550 labeled TAPE SAVE/LOAD. When you run a cable from that jack to a tape recorder, the contents of the DR-550's RAM memory can be saved on tape. During the saving process, the DR-550 converts the contents of its RAM (a bunch of numbers) into a tone that can be recorded on tape. During the loading process, the DR-550 "listens" to the tone and converts it back into a bunch of numbers that represent the patterns, songs, and pad settings that were stored in the unit when you saved everything to tape.

The same jack on the DR-550 is used for both saving and loading. During saving, the DR-550 should be connected to one of the input channels of your tape recorder. During loading, the DR-550 should be connected to one of the output channels.

Here's What You Need

All you need is a tape recorder and a cable. The TAPE SAVE/LOAD jack on the DR-550 is made for a mono mini plug connector (not a stereo one like the HEADPHONE jack). Depending on the tape recorder you are using you may need an RCA connector (for a home stereo tape deck) or a mini plug connector (for a Walkman-style cassette recorder). You can get all the connectors you need from your Roland dealer or an electronics store. If you can't find a mono mini plug connector, it's OK to use a stereo connector. In that case, use the left channel (coming out of the drum machine) for both saving and loading.

Activity #10—Save, Verify, and Load

There are three distinct processes that you'll go through in this Activity. First, you'll SAVE everything to tape, then you'll VERIFY the data to make sure it got recorded all right, and finally, you'll LOAD it back in. Here we go:

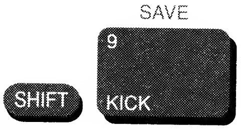
HOW TO Saving Your Work to Tape ☞

Step 1 Connect the TAPE SAVE/LOAD jack on the DR-550 to the left input channel of your tape recorder.

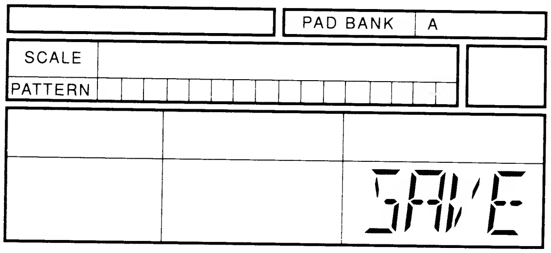
Step 2 If your tape recorder has noise reduction turn it off.

Step 3 If your tape recorder allows you to set a recording level then put the recorder into Record-Pause, press SHIFT-Pad #9 on the DR-550, and then press START. Set the record level for the tone between -10 VU and -3 VU. After you set the level press the STOP/CONTINUE button.

Step 4 Hold down the SHIFT button and press Drum Pad #9 (SAVE).



SHIFT-Pad #9 takes you to Tape Save Mode.



Step 5 Put your tape machine into record.

Step 6 Press the START button. As soon as you press the START button the TEMPO light will come on. It will stay on for about 15 seconds and then it will start to flash. The TEMPO light will flash for about 45 seconds while the DR-550 saves everything to tape.

Step 7 When the TEMPO light stops flashing you can stop the tape recorder.

While the TEMPO light is on, the DR-550 will be sending a steady high-pitched tone. When the TEMPO light starts flashing the tone will change to a warbling, less consistent sound. The steady tone is a "header" (something that comes at the "head" or the start of the recording). The warbling tone is the actual RAM data itself that the DR-550 is converting into sound. You don't need to listen to the tones to save the data—you can just watch the TEMPO light. However, you might want to listen very quietly to get a bit more feedback about what's going on.

Once the data has been recorded on tape you should immediately VERIFY the recording. Here's how that is done:

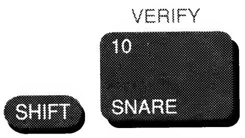
HOW TO

Verifying a Save Operation

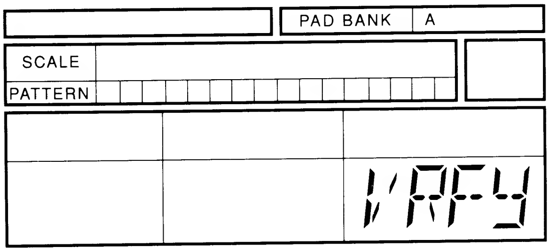
Step 8 Connect the TAPE SAVE/LOAD jack to the left output channel of your tape recorder. Just remove the connector on the tape recorder from the left input and connect it to the left output.

Step 9 Rewind the tape recorder to a point on the tape in front of where you just recorded the data.

Step 10 Hold down the SHIFT button and press Drum Pad #10 (VERIFY).



SHIFT-Pad #10 takes you to Tape Verify Mode.



Step 11 Start the tape recorder.

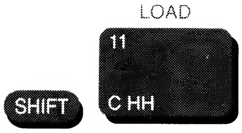
Step 12 As soon as you hear the steady high-pitched tone (and before you hear the warbling tone) press the START button. The TEMPO light will come on again.

Step 13 As soon as the TEMPO light goes out and the sound stops, stop the tape recorder. If the verification was successful, the display will read "V Gd." If it failed the display will read "V Er."

To verify that the data was saved correctly, the DR-550 "listens" to the tone from the tape. When it hears any part of the "header" tone it knows that the data is coming right up. As long as you press the START button while the "header" tone is playing, everything should work out well.

Loading is just like Verifying except that instead of just "listening" to the tone on the tape, the DR-550 also stores the information back into RAM. You should be aware that Loading completely erases the contents of the DR-550's RAM memory (just like a reset) and replaces it with the data on tape. Here's how you load your data back from tape:

HOW TO Loading Data From a Cassette Tape

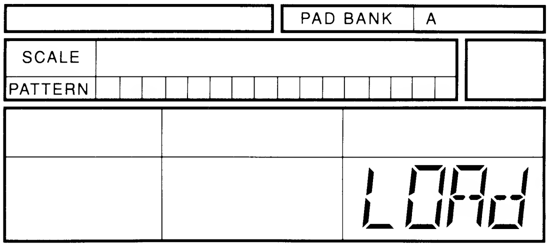


SHIFT-Pad #11 takes you to Tape Load Mode.

Step 14 Connect the TAPE SAVE/LOAD jack to the left output channel of your tape recorder.

Step 15 Rewind the tape recorder to a point on the tape in front of where you recorded the data you want to load.

Step 16 Hold down the SHIFT button and press Drum Pad #11 (LOAD).



Step 17 Start the tape recorder.

Step 18 As soon as you hear the steady high-pitched tone (and before you hear the warbling tone) press the START button. The TEMPO light will come on again.

Step 19 As soon as the TEMPO light goes out and the sound stops, stop the tape recorder. If the load was successful, the display will read "L Gd." If it failed the display will read "L Er."

The most common sources of problems with this process are: 1) Incorrect cable connections, 2) Incorrect recording levels, 3) The use of noise reduction, and 4) Damaged cassette tape.

Any Problems?

If you have any problems with errors during loading or verifying, take a look at the sections in your Owner's Manual on Error Messages (pages 88 and 89) and Troubleshooting (pages 90 and 91).

DR-550
Dr. Rhythm

"HOW-TO" INDEX

This index provides a comprehensive listing of the places in this book where you can find specific instructions on how to perform various operations on the DR-550. Use the "How To" index just like you would a general index—look up the item that you are interested in and then turn to that page number. Each item will take you to a specific set of instructions that will show you exactly how to perform the operation you're interested in. The "How To" examples are listed in the order that they appear in the book.

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Roland Corporation US, 7200 Dominion Circle, Los Angeles, CA 90040
(213) 685-5141

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